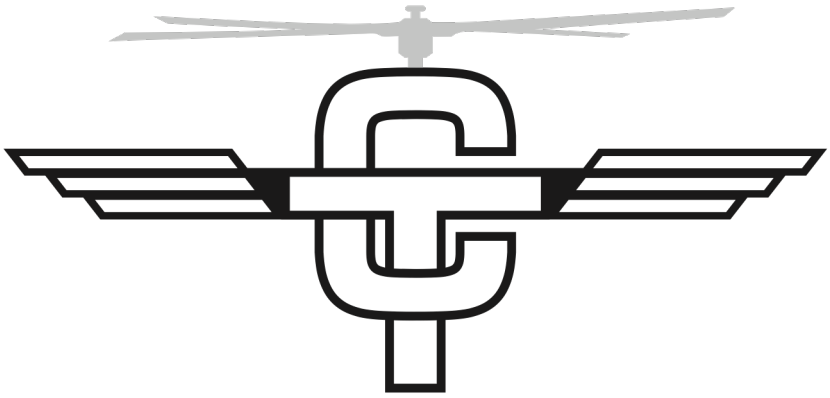

AIR

Standard Operating Procedures

LUBBOCK EXECUTIVE AIRPARK (F82) Lubbock, Tx

Table of Contents

Table of Contents

Section 1 – Introduction

1.1 General

This manual has been published to inform CT Air students and instructors of the policies and procedures that govern operations in a CT Air aircraft. At all times, CT Air pilots must abide by the Standard Operating Procedures (SOPs) outlined in the Flight Operations Manual (FOM), as well as Federal Aviation Regulations (FARs), and those described in a Federal Aviation Administration (FAA) approved Airplane Flight Manual (AFM) or Pilot Operating Handbook (POH). Procedures in this publication are derived from the FAA approved AFM and/or the POH. CT Air has attempted to ensure that the data contained agrees with the data in the AFM/POH. If there is any disagreement, the approved AFM or POH is the final authority.

1.2 Standard Operating Procedures

The information found in each section is considered to be a CT Air SOP. Violation of SOPs is terms for investigation and possible dismissal from CT Air. The procedures outlined are considered the best operating practices while flying the CT Air training fleet; however, these procedures may not be inclusive to all variables encountered in the national airspace system. Pilots are encouraged to follow the procedures outlined in this manual and use their best judgment when handling nonstandard situations. Utilizing these standard operating procedures will enhance the situational awareness of the pilot in both single pilot and crew situations and allow for timely completion of tasks in the aircraft. Adhering to these procedures will help the pilot take full advantage of the aircraft's capabilities while maintaining a high level of safety.

Section 2 – Operational and Training Information

2.1 General

This section defines basic terms and abbreviations found within the FOM.

2.2 Reference Materials

The following references supplement the content of this publication:

- Federal Aviation Regulations (FARs)
- Aeronautical Information Manual (AIM)
- FAA Approved AFM and POH
- Advisory Circulars
- Avionics Pilot Guides and Manuals

2.3 Terms and Abbreviations

The following abbreviations and terms will be referenced in this manual:

AFM Airplane Flight Manual
AGL Above Ground Level
AIM Aeronautical Information Manual
ATC Air Traffic Control
AWC Aviation Weather Center

CAC Coast Air Center
CFI Certified Flight Instructor
CTAF Common Traffic Advisory Frequency
ETA Estimated Time of Arrival
FAA Federal Aviation Administration
FAF Final Approach Fix
FAR Federal Aviation Regulation
FSS Flight Service Station
FOM Flight Operations Manual
GPS Global Positioning System
IFR Instrument Flight Rules
ILS Instrument Landing System
IMC Instrument Meteorological Conditions
IPC Instrument Proficiency Check
MC Maintenance Coordinator
MEA Minimum Enroute Altitude
MFD Multi-Function Display
MSL Mean Sea Level
NOTAM Notice to Airmen
NTSB National Transportation Safety Board
OAT Outside Air Temperature
PIC Pilot-in-Command
POH Pilot Operating Handbook
PQ Pilot Qualification
SOP Standard Operating Procedures
SRM Single-Pilot Resource Management
TFR Temporary Flight Restriction
TPA Traffic Pattern Altitude
VFR Visual Flight Rules

2.4 Limitations

The Limitations Section of the AFM/POH is the official document approved by the FAA. It provides operating limitations, instrument markings, basic placards required by regulation, and standard systems and equipment required for safe operation. Compliance with the operating limitations in the AFM/POH is required by Federal Aviation Regulations.

Section 3 – Pilot Responsibilities and Qualifications

3.1 General

The Pilot In Command (PIC) of any aircraft is responsible for safe aircraft operation. It is recommended that all pilots operate in accordance with the policies and SOPs prescribed within this publication. In no case does this document relieve the pilot in command from the responsibility of making safe decisions regarding the operation of the aircraft.

3.2 Medical Certificates

In order to exercise the privileges of a private pilot certificate the pilot must hold at least a third-class medical certificate, which is valid for 60 calendar months from the date of issuance (24 months if the person is over 40 at time of examination). To exercise the privileges of a commercial pilot certificate, a pilot must hold and maintain a second-class medical, or a first-class medical certificate. To exercise privileges of a Flight Instructor Certificate, an Instructor Pilot (IP) must hold a third-class medical certificate or higher.

NOTE:

In order for a CFI to be compensated for a ferry or maintenance flight, the CFI must hold a current first or second-class medical certificate.

3.3 Pilot Requirements

Pilots must provide CT Air current and accurate copies of the following items on their start date, prior to any flight lesson, and immediately upon any changes to the data contained therein:

- Emergency Contact Data
- Medical Certificates (prior to solo flight)
- Pilot Certificates
- Passport or Birth Certificate and Government Issued, Photo I.D. must be provided before any flight training. Changes to I.D. or Passport must be provided to CT Air immediately.
- Flight Review Endorsements
- Instrument Proficiency Check Endorsements

Pilots are required to carry all pilot certificates and government issued identification when operating any CT Air aircraft. Pilots must operate the aircraft in compliance with all regulatory requirements.

Pilots operating aircraft as a PIC shall:

- Prior to every flight, confirm that aircraft is airworthy and verify that all required documentation is on board the aircraft.
- Prior to the operation of aircraft, review maintenance discrepancies and immediately, by the most expeditious means available, report any damage, discrepancy, or finding of aircraft in non-airworthy condition.
- Properly park and secure the aircraft and install any covers and sunscreens before leaving the aircraft at any location.
- Accurately and legibly record the starting and ending Hobbs and Tach readings for each operation in CT Air aircraft.
- In the event of any incident or accident, do not move aircraft until authorized by CT Air, except to prevent personal injury or further damage to aircraft, or to facilitate rescue operations.

3.4 Fees Associated with Flight Away from Home Field

- Additional fees associated with the use of aircraft at non-base locations, such as

ramp fees, hangar fees, deicing and landing fees are the responsibility of the renter/student.
• **PIC MAY BE** held responsible for maintenance recovery fees if flight planning is determined to be inappropriate to mission.

3.5 Aircraft Systems Status
Pilots should monitor the flight, engine, and system parameters throughout the flight. Verify adequate fuel remains to reach the intended destination and switch fuel tanks as required to maintain an equal balance.

3.6 Pilot Status
Pilots should monitor fatigue and stress levels during the flight. A diversion may be necessary if the pilot has any reason to believe the flight cannot be safely completed.

3.7 Situational Awareness
Pilots should maintain situational awareness throughout the entire flight using all available equipment and resources.

3.8 Reporting of Suspicious Activity
Pilots are requested to call and report any suspicious ramp activity to 1-866-GASECURE. For emergencies, or an immediate threat to safety or security call 911.

3.9 Physiological Considerations
Intoxicants
• Alcohol - Per CT Air FOM, pilots should not consume alcohol or other intoxicants within 12 hours prior to flying and shall not be under the lasting effects of alcohol. (to include the planning and/or execution stage of a flight).
• Drugs - Prescription or over the counter drugs are prohibited when operating CT Air aircraft, UNLESS approved by an Aviation Medical Examiner.
Blood Donations
A pilot should not operate an aircraft within 72 hours after a blood donation or transfusion due to a temporary lowering of the oxygen carrying capacity of the blood.
Scuba Diving
A pilot or passenger who intends to fly after scuba diving should allow the body enough time to rid itself of excess nitrogen absorbed during the dive. The recommended wait times are as follows:
• Wait 12 hours - if flight will be below 8,000’ pressure altitude and dive did not require a controlled ascent.
• Wait 24 hours - if flight will be above 8,000’ pressure altitude or dive required a controlled ascent.

3.10 Duty Time and Rest
Pilots shall avoid a duty period greater than 14 hours including a maximum of 8 hours of flying. A pilot should have a 10 consecutive-hour rest period prior to resuming flight

activities. Pilots should consider non-flight related working periods as duty time.

3.11 Dress Code and Personal Hygiene

CT Air Instructors must comply with required uniforms at all times. Appropriate length shorts may be worn during hot months. Students are encouraged to dress appropriately and professionally. A breathable polo and pants are preferred. Shorts are encouraged during the hot months. CT Air Instructors and Students should respect the close quarter training environment in a General Aviation Aircraft. Proper Hygiene **MUST** be practiced.

Section 4 – Weather Assessment and Pilot Weather Minimums

4.1 General

Pilots should determine if the weather conditions exceed their qualifications and capabilities. A decision should be made to postpone the flight if the weather is not acceptable.

A critical factor in a successful flight is the pilot's evaluation of weather conditions. Many weather-related accidents could have been prevented during preflight if the pilot had thoroughly evaluated the weather conditions. The following weather resources will be useful for evaluating the weather and making a go/no-go decision:

Flight Service Station (FSS)

- 1-800-WX-BRIEF
- 1800wxbrief.com

Aviation Weather Center (AWC)

- http://www.aviationweather.gov

National Weather Service

- http://www.nws.noaa.gov

4.2 Hazards to Flight

It is crucial to identify any potential hazards to the intended flight. Become familiar with areas of marginal Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) conditions, convective activity, and areas of icing and turbulence. Weather products available include:

- Weather depiction chart
- AIRMETs, SIGMETs and Convective SIGMETs
- Weather Radar
- Pilot Reports (PIREPs)
- Graphical Forecast for Aviation (GFA)
- Current and forecasted icing potential tools
- Aviation Weather Center (AWC)

4.3 Current Observations

Become familiar with the current weather along the route. Analyze the up-to-date weather observations within 50 miles of the departure airport, intended course, and destination airport.

Weather products available include:
• Aviation Routine Weather Reports (METARs)
• Pilot Reports (PIREPs)

4.4 Forecasted Weather
Evaluate the weather forecast two hours before and after your estimated time of arrival at the destination or planned alternate.
Weather products available include:
• Terminal Area Forecasts (TAFs)
• Graphical Forecast for Aviation (GFA)
• Prognostic charts
• Winds and temperature aloft
• AIRMETs, SIGMETs and Convective SIGMETs

4.5 Notices to Airmen (NOTAMS) & Temporary Flight Restrictions (TFRs)
Before each flight the pilot shall check for NOTAMs and TFRs. Pay close attention to any TFRs or NOTAMS that may interfere with routing.
NOTAMs and TFRs can be located by using the following products:
• https://notams.aim.faa.gov/notamSearch/
• tfr.faa.gov

4.6 Thunderstorms and Convective Activity
Pilots must never regard a thunderstorm lightly. Avoiding thunderstorms is the best policy.
• Do not land or takeoff in the face of an approaching thunderstorm. A sudden gust front or low-level turbulence could cause loss of control.
• Do not attempt to fly under a thunderstorm even if you can see through to the other side. Turbulence and wind shear under the storm could be disastrous.
• Do not rely on Data-Linked weather to navigate around thunderstorms. Only visual sighting or on-board weather radar should be used to avoid thunderstorms.
• Avoid by at least 20 miles, any thunderstorm identified as severe. This is especially true under the anvil of a large cumulonimbus.
o Circumnavigate the entire area if the area has 6/10 thunderstorm coverage.
o Remember that vivid and frequent lightning indicates the existence of a strong thunderstorm.
o Regard as extremely hazardous any thunderstorm with tops 35,000 feet or higher, whether the top is visually sighted or determined by radar.
• Flying within the area of an active convective SIGMET is not authorized per CT Air policy.
NOTE:
If it is determined that the active convective SIGMET is not progressing as forecasted, flight may be permitted at the discretion of the Flight Instructor.

4.7 Student Pilot Weather Minimums

The following weather minimums apply to all flight training operations conducted at CT Air. The Chief Flight Instructor / Lead Flight Instructor may authorize deviations from the ceilings, visibilities and wind velocities when deemed appropriate.

• CT Air limitation for all student pilots is 20 knot headwinds with an 10 knot crosswind including gust factor.

- Solo Traffic Pattern: Ceilings 1,000ft above TPA and > 5 SM visibility
- Solo Practice Area: Ceilings 2,000ft above planned altitude and > 6 SM visibility
- Solo Cross Country: Ceilings 2,000ft above planned altitude and > 6 SM visibility

4.8 Weather Minimums for Instrument Rated Students

• An alternate must be filed if the weather is less than 2,000' ceilings and the visibility is less than 3 SM +/-1hr ETA at destination airport.

• Forecasted weather at destination must be at least 600' ceilings and a visibility of 3 SM.

• Flight into known icing conditions is **prohibited**.

4.9 Weather Minimums for Non-Instrument Rated Private Pilots

• Cloud clearances will be in accordance with FAR 91.155.

4.10 Weather Minimums for Dual Flight Operations

• VFR Dual flights leaving the airport boundary, including cross country flights, must abide by the cloud clearances in part 91.155.

• For IFR cross-country flights, an alternate must be filed if the weather is projected to be below 2,000' AGL ceilings and 3 SM visibility +/- 1 hour of ETA at destination airport.

NOTE:

Special VFR Operations are **prohibited.**

4.11 Weather Status

Pilots should monitor the weather along the route and destination airport for deteriorating conditions using onboard weather resources and ground-based weather resources. Contact FSS frequencies for up-to-date weather information. A diversion may be necessary if the weather deteriorates beyond the pilot's qualifications and/or capabilities.

4.12 Hazardous Weather Policy

If the weather should deteriorate during the event, the PIC shall determine the course of action based on if the aircraft is on the ground or in the air:

If on the Ground:

• Cancel and reschedule activity.

• Delay departure.

• Tie down & secure aircraft on the ramp.

• Leave the ramp for shelter indoors.

If Airborne:

• Divert to a non-threatened airport.
• Hold in area clear of thunderstorms, fuel permitting.

4.13 Operations in Icing Conditions
DO NOT take off in an aircraft that has frost, snow, or ice adhering to any external surface. The only approved deicing method is to store the aircraft in a warm hangar, or in the sun. DO NOT SCRAPE frost, snow, or ice off an aircraft. A pilot can expect icing when flying in visible moisture, such as rain, snow or clouds, and the temperature of the aircraft is below freezing. If icing is detected, a pilot should turn on all available anti-icing equipment and do one of two things to exit the icing conditions:
• Alert Air Traffic Control (ATC) as soon as possible if on an IFR flight plan and request new routing;
• Divert to an area free of visible moisture or;
• Go to an altitude where the temperature is above freezing. The warmer altitude may not always be a lower altitude.
• WARNING •
Flight into known icing conditions is **prohibited.**

4.14 Hot Weather Operations
Familiarize yourself with the appropriate warm weather operating procedures for your aircraft. Prevent dehydration and heat stroke/exhaustion by remaining hydrated and packing extra water for flights in warm weather.
• Flight above Outside Air Temperatures (OAT) of 110°F (43.3°C) is prohibited.
• If the Heat Index is above 110°F (43.3°C), the PIC has authority to postpone flight.

Section 5 – Preflight Preparation

5.1 General
A Preflight Inspection is necessary for the PIC to ensure the aircraft is in airworthy condition. The preflight inspection can be completed as a Flow Pattern when the pilot is familiar with the aircraft preflight inspection checklist. Always refer to the aircraft checklist after the flow to verify all items have been completed.
NOTE:
A CFI must be present for all Student Pilot (Private Pilot Course) Preflight inspections.

5.2 Checklist Philosophy and Usage
Checklists for operations are categorized as follows:

Normal: Procedures used during normal flight operations. Normal checklists can be found in the Normal Procedures section of the AFM/POH.

Abnormal: Procedures used in response to system failures and malfunctions that, while not immediately threatening, may affect safety of flight if not addressed. Abnormal checklists can be found in the Abnormal Procedures section in the AFM/POH.

Emergency: Procedures used in response to system failures and malfunctions that are an immediate threat to the safety of flight. Emergencies require immediate action by the flight crew to ensure a safe outcome. Emergency checklists can be found in the Emergency Procedures section of the AFM/POH.

When used properly:
• Checklists enhance safety of flight by confirming the aircraft is appropriately configured for the flight condition.
• Checklists expedite the completion of procedures that are necessary to transition to subsequent phases of flight.
Note: If the aircraft is equipped, the electronic checklist in the Multi-Function Display (MFD) may be used.
• Use of electronic checklists will help keep the cockpit organized and functional.
• Use a paper checklist whenever MFD electronic checklists are not available or if the aircraft does not have a MFD.

5.3 Checklist Completions for Normal Procedures
Normal procedure checklists can be completed as a Flow Pattern. The appropriate method for checklist completion is dependent upon the pilot workload for each phase of flight.

Flow Pattern
The term “Flow Pattern” refers to a logical path through the cockpit that the pilot will move along during the execution of the checklist. Flow Patterns use a “do and verify” approach to checklist completion. Procedure sequence and aircraft condition is not critical and there is an operational advantage to executing the checklist items in a timely manner. When used properly, Flow Patterns allow timely configuration of the aircraft for the appropriate flight condition.

The Flow Pattern is executed by:
• Memorizing and executing the checklist without immediate reference to the written checklists and then;
• The checklist is referenced as soon as time and workload permit to ensure procedure completion.

5.4 Documentation
The following documents must be in the aircraft for the flight: (ARROW)
• Airworthiness Certificate
• Registration
• Radio Station License (international flights only)
• FAA Approved Airplane Flight Manual/Pilot Operating Handbook
• Weight and Balance

5.5 Equipment

All flights must be in accordance with 91.205, for Day, Night, and IFR operations. The following auxiliary equipment should be carried in the aircraft when appropriate:

- Survival kit (appropriate to the climate and conditions)
- Approved flotation gear and at least one pyrotechnic signaling device for flights outside glide distance to land
- Supplemental oxygen system for high altitude operations
- Flashlight or headlamp for night operations
- Chocks, tie downs, extra oil, and tow bar

Section 6 – Starting and Taxiing

6.1 General

This section contains the SOPs for engine starting, and taxi operations. Extra care and situational awareness shall be given while operating on the CT Air ramp, as well as in movement areas around the airport. Taxi and clearance instructions shall be received and copied only when aircraft is at a full stop, unless an amendment is given while in transit.

6.2 Passenger Flight Briefing

Flight training with passengers (defined as a person not enrolled in a CT Air training program and/or an employee of CT Air) is not authorized without the permission of CT Air Chief Flight Instructor. If passengers are authorized, the PIC will provide a safety briefing, to all passengers prior to each flight. The briefing shall provide information on seat belts, exits, and any other safety equipment on the aircraft. The pilot should also discuss sterile cockpit procedures and other information as necessary. At a minimum, passengers should be briefed on the following items:

- Smoking
- Seatbelts
- Doors
- Emergency Exits/Egress
- Use of Oxygen if installed
- Traffic alerts
- Sick bag
- Engine fire briefing

6.3 Engine Start

Use the Engine Start checklist, derived from the airplane AFM/POH.

- Select the proper engine start procedure based on outside air temperature and internal engine temperature. If engine has been exposed to temperature extremes care should be given to starting the aircraft in accordance with any specific requirements for extreme weather.
- If the engine does not start during the first few attempts, let cool for three minutes before reattempting engine start.

• WARNING •
Failure to properly pre-heat a cold soaked engine may result in congealing within the engine, oil hoses, and oil cooler. This could lead to a subsequent loss of oil flow, internal engine damage and subsequent engine failure.

6.4 Before Taxi
Complete the Before Taxi checklist as a flow and reference the aircraft checklist to verify all items are complete.
• Set up the required navigation equipment and communication frequencies for the intended flight at this time.
• Primary navigation should be set into Global Positioning System One (GPS 1) and secondary or auxiliary navigation set into GPS 2 if needed. Set primary airborne frequencies into COM 1 and necessary ground frequencies into COM 2.
• Review all designated airport hot spots along the taxi route, and brief prior to taxi.

6.5 Taxi Out
In congested areas (such as the ramp), use the appropriate taxi speed that approximates a normal walking speed with as little power as necessary in order to promptly stop if the need arises.
• All pilots will maintain a taxi speed of 10-15 knots groundspeed or less at all times. This speed will be displayed as Ground Speed (GS) on a GPS device during taxi.
• Maintain a sterile cockpit while taxiing on the ramp.
• As the aircraft moves out of the parking position, test the brakes on the pilot's side and instructor's side (on dual flights) to ensure proper operation.
• **DO NOT** test brakes while transitioning on an active taxiway (as there may be aircraft in trail).
• Ensure the nose wheel track is along the marked centerline and the aircraft maneuvered in the direction indicated when taxiing on ramp areas. It should be noted however that tracking the centerline does not guarantee clearance from all obstructions such as other aircraft, hangars, signs, etc.
• WARNING •
Extra care should be taken when taxiing in the proximity of fuel islands, fuel trucks, or other vehicles on the ramp.

NOTE:
Pilots shall ensure that propeller blast is directed away from persons, vehicles, structures, or other aircraft.

• Maintain high levels of situational awareness during all movement on the airport surface to avoid a runway incursion accident. Minimize tasks such as reading checklists or folding maps while taxiing.
• Utilize an airport diagram to aid in situational awareness.

A cause of brake failure is the creation of excessive heat through improper braking practices. Excessive use of the brakes while taxiing causes a continuous buildup of energy which may lead to excessive heat. Excessive heat causes warped brake rotors, damaged or glazed linings, damaged O-rings, and vaporized brake fluid. To avoid brake failure, observe the following operating and maintenance practices:

• Directional control should be maintained with rudder deflection supplemented with brake pressure as required.
• Use only as much power (throttle) as is necessary to achieve forward movement. 1,000 RPM is typically enough to maintain forward movement under normal conditions.
• Avoid unnecessary high-speed taxiing. High speed taxiing will result in excessive demands on the brakes, increased brake wear and the possibility of brake failure.
• Use the minimum necessary brake application to achieve directional control.
• DO NOT "ride the brakes." Pilots should consciously remove pressure from the brakes while taxiing. Failure to do so results in excessive heat, premature brake wear, and increased possibility of brake failure.
• Refer to the Handling, Service, and Maintenance section of the POH or the Maintenance Manual for recommended maintenance and inspection intervals for brakes.

• WARNING •
Maximum continuous engine speed for taxiing is 1,000 RPM on flat, smooth, hard surfaces.

Section 7 – Flight Procedures

7.1 General

This section should be used as the SOPs for the planning and execution of all flights in CT Air aircraft. Minimizing flight risk requires sound judgment and sensible operating practices. Safety of flight ultimately depends upon the decisions made by the pilot. Safe flights should be conducted in accordance with regulations, ATC clearances, personal capabilities, and the aircraft operating limitations described in the FAA Approved AFM/POH.

The following is a list of priorities that apply to any situation encountered in flight. Pilots must adhere to these priorities during every flight.

1. Aviate
The number one priority of the pilot is to maintain aircraft control. Pilots should maintain a high level of vigilance during periods of high and low workload to ensure aircraft control is always maintained.
2. Navigate
Once aircraft control is assured, pilots should set and verify the avionics are correctly configured for navigation. This task includes programming GPS units and/or analog

flight instruments. Use of an autopilot may assist the pilot with accomplishing these tasks. Pilots should closely monitor flight parameters while programming various avionics equipment.

3. Communicate

Communication is an important task in the aircraft but follows aircraft control and navigation as a priority. Communicate intentions and relay instructions clearly to ATC and the Common Traffic Advisory Frequency (CTAF) while maintaining aircraft control.

NOTE:

Using SOPs will aid the pilot in timely completion of required tasks and help the pilot maintain high levels of situational awareness.

7.2 Before Take Off

Complete the Before Takeoff checklist. Conduct the checklist prior to taking the active runway or in an appropriate run up area prior to departure. The Before Takeoff checklist will ensure the aircraft is properly configured for takeoff. Run-up items are included in this checklist.

Verify engine oil temperature(s) are within the green range prior to applying run-up power settings. Verify all engine and electrical indications are normal prior to departure. During cold weather operations the engine should be properly warmed before takeoff. In most cases this is accomplished when the oil temperature has reached the green range. In warm or hot weather, precautions should be taken to avoid overheating during prolonged ground engine operation. Additionally, long periods of idling may cause fouled spark plugs.

7.3 Take Off

Reference the Takeoff checklist prior to departure. Complete a takeoff briefing to review the critical items prior to takeoff. A takeoff briefing allows the pilot to review the takeoff procedure and determine the actions necessary in the event of abnormal/emergency conditions during the takeoff roll and initial climb. At a minimum, a takeoff briefing should include the following items:

- Type of procedure used (normal, short, or soft)
- Takeoff distance required and runway distance available
- Rotation speed and initial climb speed
- Abnormality and engine failure before rotation
- Emergency landing options around airport

7.4 Takeoff Briefing

The following is the appropriate Takeoff Briefing to be completed prior to takeoff:

This will be a _____ (normal, short, soft) takeoff from RWY _____ with a takeoff distance of _____ feet and _____ feet of runway available. Rotation speed is _____ KIAS. Initial heading after takeoff is _____ degrees to an altitude of _____ feet. Abort the takeoff for any engine failures/abnormalities prior to rotation. If the engine fails after rotation I will _____.

7.5 Sterile Cockpit

During sterile cockpit operations, all distractions such as non-flight related materials and unnecessary communication with passengers should be minimized. A sterile cockpit should be observed during:

- Departure
- Arrival
- Abnormal and/or emergency operations

7.6 Enroute Climb

Complete the Climb Checklist as a flow when time and workload permit. Once clear of obstacles and terrain, normal climbs are performed, flaps UP and full power at speeds 5 to 10 knots higher than best rate-of-climb speeds. These higher speeds give the best combination of performance, visibility, and engine cooling. When desired and clear of obstacles, you will transition to cruise climb speed for increased engine cooling, visibility, and passenger comfort. For maximum rate of climb, you will use the best rate of climb speeds shown in the rate of climb chart in the AFM/POH. If an obstruction dictates the use of a steep climb angle, the best angle of climb speed should be used. Climbs at speeds lower than the best rate of climb speed should be of short duration to avoid engine cooling problems.

• CAUTION •

Use caution when engaging the autopilot at low altitude due to the increased workload of programming the autopilot and potential for human errors. Hand fly the aircraft to a safe altitude and engage the autopilot if desired when time and workload permit. Consider setting the autopilot bugs prior to departure to reduce the amount of workload associated with setting up and engaging the autopilot.

7.7 Turns After IFR Takeoff

The recommended turn altitude after takeoff is 400’ AGL, unless obstacle departure procedures or ATC instructions dictate otherwise. When cleared to “Fly Runway Heading”, pilots should maintain the heading that corresponds with the extended centerline of the departure runway until otherwise directed by ATC.

7.8 Cruise

Complete the Cruise checklist as a flow when time and workload permit. Allow the aircraft to accelerate to cruise speeds before setting the desired cruise power setting. Ensure adequate fuel reserves remain for the intended destination. Normal cruise power settings should be utilized, and mixture set for best power (normal operations) or leaned appropriately (cross country operations).

7.9 Descent

Descents should be planned during cruise considering:

- The amount of altitude required to descend;
- Distance and time to destination;

• ATC restrictions, and
• Obstacle/terrain clearance, desired rate of descent, and engine care.

To manage workload, complete the Descent Checklist at the top of your descent or at least 10 minutes from the destination. This should be accomplished as a flow when time and workload permit upon initial descent to land. Reference the checklist to verify all items are complete once the flow has been completed. Set appropriate frequencies and review weather to determine the active runway. Verify GPS units are programmed as desired for the arrival and approach into the airport. Power should be used during descent to manage airspeed and maintain engine temperatures as desired. Maintain airspeed within the green range if turbulence is expected or encountered during the descent. Use caution and avoid excessive maneuvering when airspeed is within the yellow range during the descent.

7.10 Before Landing Traffic Pattern
Complete the Before Landing checklist as a flow prior to entering the traffic pattern when time and workload permit. Slow the aircraft early enough to allow for an easy transition into the traffic pattern and enough time to ensure the aircraft is configured for landing.

7.11 Approach
To reduce workload during the descent and instrument approach procedure, follow these recommendations:
• Obtain destination weather information as soon as possible to determine active runways and applicable approaches
• Set up applicable COM and NAV frequencies prior to descent
• Reduce unnecessary communications and distractions during the approach
• Use the autopilot (if equipped) while briefing the approach
• Use the Descent and Before Landing flows outlined in this manual to complete checklist and avionics set up procedures (always reference the checklist after the flow is complete)
• Brief the approach using the guidelines listed in this section

7.12 Stabilized Approach Criteria
A stabilized approach is critical to a safe and successful landing. A stabilized approach is characterized by a constant angle, constant rate of descent approach profile ending near the touchdown point. Stabilized approach criteria apply to all approaches including practice power off approaches.

VFR
Complete all briefings and appropriate checklists by 500' AGL in visual conditions. A VFR approach is considered stabilized when all the following criteria are achieved by 500' AGL:
• Proper airspeed;
• Correct flight path;

• Correct aircraft configuration for phase of flight;
• Appropriate power setting for aircraft configuration;
• Normal angle and rate of descent; and
• Only minor corrections are required to correct deviations.

If corrections to the approach must be made in order to stabilized, the pilot shall verbally state the corrective action i.e. “500’ high and fast, correcting by removing power and pitching up as needed for airspeed”.

• WARNING •
A go around must be executed if the above conditions are not met and the aircraft is not stabilized by 200' AGL.

IFR
Complete all briefings and appropriate checklists by 1,000' AGL for instrument conditions. An IFR Approach is considered stabilized when all the following criteria are met from 1,000' AGL and continues to touchdown:
• Proper airspeed;
• Correct flight path;
• Correct aircraft configuration for phase of flight;
• Appropriate power setting for aircraft configuration;
• Normal angle and rate of descent;
• Only minor corrections with pitch and power are required to correct airspeed and glide path deviations;
• Normal bracketing (+/- 5º) is used to correct for lateral navigation deviations; and
• **DO NOT** change flap configuration after crossing the final approach fix (FAF) until the runway is in sight and landing is assured.

NOTE:
A missed approach must be executed if the above conditions are not maintained during an instrument approach.

7.13 Go Around and Missed Approach
A go-around should be executed anytime an approach does not meet the stabilized approach criteria outlined in this manual for instrument or visual conditions. A go-around should be completed from memory since it is a time critical maneuver. In addition to the stabilized approach criteria, execute a go around or missed approach for these conditions:
• Excessive ballooning during round out or flare.
• Excessive bouncing or pilot-induced oscillations.
• Landing beyond distance required to come to complete stop.
• Any condition when a safe landing is in question.
• If in IFR conditions and runway not in sight as outlined by FAR 91.175 at minimums execute missed approached.

The priority of executing a go around is to stop the aircraft's descent. Smoothly and promptly apply full power while simultaneously leveling the wings and pitching the aircraft to stop the descent. Flaps shall be removed only after a positive rate-of-climb has been established.

7.14 Normal Landing
Normal landings should be made with full flaps. Final approach speeds should be adjusted to account for wind gusts exceeding 10 knots by adding half of the gust factor to the final approach speed. Reduce power smoothly and begin slowing from the final approach speed at a time that allows an easy transition from final descent to round-out and flare with minimum floating or ballooning. Touch downs should first be made on the main landing gear, slightly above stall speed, followed by a gentle lowering of the nose wheel.

7.15 After Landing
Complete the After Landing checklist as a Flow Pattern after clearing the active runway. Ensure the pitot heat is turned off. The mixture can be leaned if desired. Set the mixture by leaning for max RPM rise.

NOTE:
Pilots shall ensure that the flaps are retracted after landing. This will prevent ground damage from rocks or debris.

7.16 Engine Shut Down
Complete the shutdown checklist to ensure all checklist items are addressed. The aircraft should be parked on a ramp or in a hangar. If the aircraft is parked outside, it should be chocked and tied down if possible.

• WARNING •
Notify CT Air personnel immediately, and do not move the propeller if a hot magneto is found during the shutdown process.

7.17 Post Flight
Following each event, a post flight inspection of the aircraft will be conducted by the CFI and student. This post flight inspection will focus on leading edge surfaces and general skin condition, all panels and doors, antennae and other protrusions (pitot tube, Angle of Attack (AOA) or stall indicator, OAT bulb, static wicks etc.), tires (inflation and bald spots), struts, propeller(s) and general condition of the aircraft.

NOTE:
All pilots/occupants are expected to take with them any trash. The last PIC who flew the aircraft will be held responsible for any deviations from this section.

Section 8 – Fire Precautions and Procedures

8.1 General

Smoking is not permitted on the CT Air ramp, in any aircraft, or within 50 feet of any fueling facility. During extremely cold or hot engine starts, you will follow the airplanes AFM/POH for cold or hot engine start procedures. Fire extinguishers are located in each CT Air aircraft. Please familiarize yourself with the locations of these fire extinguishers. Follow the procedures for fires in the aircraft as specified in the Emergency section in the AFM/POH published by the aircraft manufacturer.

Section 9 – Re-Dispatch Procedures

9.1 General

If a significant change in weather happens or the home airport closes due to an emergency, alternate airports may be used. Weather minimums from departing airport must be met according to “Weather Minimums” section of this document. If the crew must stay the night at the alternate airport contact CT Air Leads for further instructions.

Section 10 – Aircraft Discrepancies and Maintenance

10.1 General

The Pilot in Command or a certified mechanic has the authority to ground an aircraft anytime it is determined not to be in airworthy condition.

10.2 Aircraft Discrepancy and Deferral Procedures

If the aircraft is deemed not airworthy, please advise an instructor promptly. Once the discrepancy has been addressed by a technician, the aircraft will be able to return to service.

10.3 Aircraft Maintenance

If an aircraft is damaged or encounters mechanical difficulty that is hazardous to flight or ground operations away from home base, the pilot should land as soon as practical and not attempt to take off. The pilot shall secure the aircraft and contact the CT Air Chief Flight Instructor.

Pilots operating aircraft shall:

- Prior to receiving CT Air approval, not conduct or authorize any maintenance or servicing of aircraft, except for adding fuel or lubricants.
- Accept full responsibility, regardless of cause, for any damage claimed against aircraft in subsequent pre-flight inspection that was not recorded or reported to CT Air aircraft prior to their operation of aircraft.

10.4 Procedures for Bird Strikes
In the event that a bird strike occurs, please refer to the following steps:

If the strike occurs during taxi, or prior to take off at a controlled airport:
• Contact ground control and obtain clearance to taxi back to parking.

IF OFF SITE:
• If no damage and the aircraft is deemed airworthy by a certified mechanic, then the flight can continue as scheduled.
• If damage is noted and the plane is not airworthy, the plane shall remain down and arrangements will be made to secure/transport the aircraft, as well as transportation for the instructor and/or student.

10.5 Procedures for Propeller Strikes
In the event that a propeller strike occurs, please refer to the following steps:

If the strike occurs during taxi, or prior to take off at a controlled airport:
• Alert ground control that the engine(s) will be shut down, and that a tow from line service/maintenance is requested.
• Call your CT Air Chief Flight Instructor and advise of the situation.

IF OFF SITE:
• Call your CT Air Chief Flight Instructor and advise of the situation.
• If no damage and the aircraft is deemed airworthy by a certified mechanic, then the flight can continue as scheduled.
• If damage is noted and the plane is not airworthy, the plane shall remain down and arrangements will be made to secure/transport the aircraft, as well as transportation for the instructor and/or student.

Section 11 – Securing the Aircraft

11.1 General Securing Procedures
After shutdown, ensure that the aircraft is properly parked and secured.

• WARNING •
VERIFY MAGNETOS ARE IN THE OFF POSITION.

Pushback
• The tow bar shall be used at all times when moving the aircraft into or from a parking spot.
• **DO NOT** attempt to move the aircraft by pressing down, pushing, or pulling on any part of the tail section.
• **DO NOT** push or pull on the engine cowling.
• **DO NOT** push or pull on the propeller cone/spinner.

• **DO NOT** use full brake on one wheel in order to pivot the aircraft more than 90 degrees for parking.

Securing
• Tie-downs should be tightened in such a manner as to firmly secure the aircraft but not to over stress it. Tie-downs must be attached after each flight, or at any time the aircraft is left unattended.
• When exiting the aircraft, ensure that all switches are off, the parking brake is off, and all personal items are removed from the aircraft.
• The aircraft doors shall be locked after every flight.
• Attach gust lock if equipped.

Section 12 – Fuel Requirements

12.1 General

DO NOT operate an aircraft in IFR conditions unless there is enough fuel (considering weather reports, forecasts, and weather conditions) to:
• Complete the flight to the first airport of intended landing;
• Fly from that airport to the alternate airport; and
• Fly after that for one hour at normal cruising speed.

DO NOT begin a flight in an aircraft under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly:
• To the first point of intended landing assuming normal cruise speed, and
• At least an additional 45 minutes beyond that point in either day or night conditions.
For operations in the practice areas or a local flight, return the aircraft to base with a minimum of 45 minutes fuel remaining.

Section 13 – Collision Avoidance

13.1 General
It is the responsibility of the Pilot in Command to 'see and avoid' other traffic while operating under VFR or during Visual Meteorological Conditions (VMC) on an instrument flight plan.

13.2 Use of Aircraft Lighting
Pilots must adhere to CFR 14 Part 91.209 in regard to regulations governing the use of aircraft lighting.
• Prior to engine starting and anytime the engine is running, turn on the anti-collision lights (beacon/fin strobe).
• Prior to taking the runway for departures, turn all aircraft lights on.
• While flying below 10,000' MSL, leave all lights on unless operation of navigation

lights during the day will dim the landing gear position lights.
• Navigation lights must be on for all operations between sunset and sunrise.

NOTE:
While operating on the ground at night use of strobe, landing, taxi, and recognition lights must not cause a safety hazard by adversely affecting the vision of other pilots and ground personnel.

13.3 Right of Way Rules
Always adhere to right-of-way rules as stated in 14 CFR Part 91.113.

13.4 Ground Operations
Taxiing on centerline does not assure collision avoidance. The pilot must be aware of surrounding objects to avoid striking part of the aircraft. During Crew Resource Management exercises, the pilot not flying/taxiing may conduct checklist items when not task saturated (i.e. copying ATC instructions, crossing runways/taxiways, etc.).

NOTE:
If obstacle clearance is in question during taxi operations, alert ground control (if applicable) and shut down engine(s). Contact line service, and have aircraft relocated.

13.5 Visual Scanning Procedures
When flying during the day, systematically scan the sky for other aircraft. While at night, DO NOT focus directly on an object, instead, view it off center.

13.6 Windscreen Care
Pilots must ensure that windscreens are clean during the preflight check. Dirty windscreens create a hazard and can greatly increase the chances of a mid-air collision.
• Use cleaning materials located in the back of the aircraft to clean windscreens.
• Scraping the windscreens with credit cards, ice-scrapers, or other abrasive materials are **prohibited** and will scratch the windscreen, therefore decreasing the effectiveness of vision outside the aircraft.

Section 14 – Minimum Altitude Operations and Simulated Emergency Landings

14.1 General Operating Altitudes
Except when necessary for takeoff or landing, per CFR 14 Part 91.119, DO NOT operate an aircraft below the following altitudes:
• Anywhere: An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
• Over congested areas: Over any congested area of a city, town, or settlement, or over any open-air assembly of persons, an altitude of 1,000’ above the highest

obstacle within a horizontal radius of 2,000’ of the aircraft.
• Over other than congested areas: An altitude of 500’ AGL.
• All stalls and slow flight must be initiated no lower than 3,000’ AGL and completed no lower than 1,500’ AGL.

The following altitude restrictions shall be observed:
• Though the FARs define minimum operating altitudes, use proper judgement when operating below 1,500’ AGL.
• No student pilot may conduct a flight over 10,500’ MSL without prior permission.
• All flights above 12,500’ MSL shall follow FAR oxygen requirements.

• WARNING •
Any student or instructor that is reported to be operating at an unsafe or illegal altitude will be placed under investigation that may result in termination from CT Air.

Section 15 – Simulated Emergency Landings

15.1 General Simulated Emergency Landing Procedures
Simulated emergency approaches and landings must terminate no lower than 500’ AGL, unless making a landing at an authorized airport. Simulated emergency approaches and landings are not authorized on solo flights. Operations on unimproved, grass or gravel runways are **prohibited**.

NOTE:
It is required that CFIs brief students prior to flight on any plan to simulate an emergency procedure. This is applicable to all training flights and stage checks.

Section 16 – Flight Planning

16.1 General
Student pilots are required to file a VFR flight plan for all cross-country flights. Always include an alternate airport when operating VFR or IFR. A cross-country flight is any flight that is 50 nautical miles or more from the point of origin.

Complete the following flight planning responsibilities:
• Determine the best route and altitude considering; winds aloft, freezing levels, cloud bases and tops, turbulence, terrain, airspace and Temporary Flight Restrictions (TFRs);
• Determine an alternate airport;
• Calculate fuel requirements;
• Verify aircraft is within weight and balance limitations;
• Verify runway lengths for intended airports;
• Calculate takeoff and landing distances; and
• File flight plan.

16.2 Weather Assessment
Pilots should determine if the weather conditions exceed their qualifications and capabilities. A decision should be made to postpone the flight if the weather is not acceptable. Flight planning should continue if the weather is acceptable.

16.3 Minimum Runway Length
CT Air pilots are encouraged to operate with a minimum runway length of 3,000' or one and a half times the expected takeoff and /or landing distance, whichever is higher. CT Air pilots should receive short field takeoff and landing instruction prior to operating at fields shorter than 3,000'.

16.4 Noise Abatement
When operating at noise sensitive airports, pilots are encouraged to follow local noise abatement procedures. Safety permitting, consider a power reduction during the climb.

16.5 IFR Alternate Airport Weather Requirements
In accordance with 14 CFR Part 91.169, an alternate must be filed if, from 1 hour before, to 1 hour after the estimated time of arrival at the destination airport:
• The weather is forecast to be 2,000' ceilings or lower with a visibility less than 3 SM.

Select alternates based on weather and type of approach:
• Precision approach procedure If the alternate airport has a precision approach, the weather must be at least a ceiling of 600' and visibility 2 SM.
• Non-precision approach procedure If the alternate airport has a non-precision approach, the weather must be at least a ceiling of 800' and visibility 2 SM.
• If no instrument approach procedure has been published, the ceiling and visibility minima are those allowing descent from the Minimum Enroute Altitude (MEA), approach and landing under basic VFR.

16.6 Opening an IFR Flight Plan at an Airport without an Operating Control Tower
Several options are available when opening an IFR Flight Plan at an airport without an operating control tower. This may be at a generally uncontrolled airport, or during the morning, or at night when a towered airport is closed. Clearances may be received over the telephone through a Flight Service Station (FSS), on the ground through a Ground Communications Outlet (GCO) / Remote Communications Outlet (RCO), or from ATC after a departure in VFR conditions.

NOTE:
When opening an IFR Flight Plan from an uncontrolled airport, pilots will be given an IFR clearance, along with a Release Time and a Clearance Void Time.

Release Time – Pilots are not permitted to depart until the release time given by FSS or ATC.

Clearance Void Time – The time at which the departure clearance is automatically canceled if takeoff has not been made. The pilot must obtain a new clearance or cancel the IFR flight plan if not off by the specified time.

Section 17– Emergency and Incident/Accident Procedures

17.1 General
In the event of an emergency or incident/accident, immediately notify the Chief Flight Instructor. Additionally, ensure to cooperate with any agencies that are in response. Pilots should not discuss the circumstances with anyone not involved with the investigation.

17.2 Emergency Landing
If a CT Air aircraft makes an emergency landing at an off-airport location, the pilot should not attempt to take off, and immediately contact the proper authorities (911/CT Air Chief Flight Instructor, as necessary.)

17.3 Aircraft Incident and Accident Notification
An Aircraft Incident and Accident Report should be completed by the pilot any time a CT Air aircraft sustains any damage or is involved in an incident or accident. Contact the Chief Flight Instructor prior to submitting a report. The information may be useful in a future investigation.

I hereby declare that I have read, understood, and will abide by the Standard Operating Procedures listed in this Flight Operations Manual provided by CT Air.

Date:

Signature: