**(Your Company)**

**Flight Operations Handbook**

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**Flight Operations Handbook**

**Section: Table of Contents Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

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**Section I: Preface Revised: (date)**

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**General**

This Handbook has been prepared to set forth the basic procedures and policies of

( Your Company ) herein after referred to as (Company Initials). These procedures and policies are designed to supplement the regulations and are considered essential to good operating practices and safety. The contents of this handbook shall not be construed to be contrary to any Federal Aviation Regulation or any applicable state or local regulations.

Flight Personnel of (Company Initials) shall use this handbook for guidance. during the operation of its aircraft. Within this handbook are specific instructions, information and facts necessary for all personnel to carry out their duties and responsibilities with the utmost safety and continuity.

This handbook is intended to provide the most practical, efficient and effective operating procedures commensurate with the highest degree of safety. However, it does not provide a substitute for sound judgment. If there is a problem or if anyone involved with the operation of (Company Initials). aircraft have any suggestions for improving this handbook or adding to the safety of operations, please submit those suggestions in writing to the Director of Flight operations.

**Distribution**

A copy of portions of this handbook, changes and additions to it will be furnished to (Company Initials). pilots. A copy of this handbook will be available at the drop zone at all times when aircraft operations are being conducted.

**Section II: Record of Revision Revised: (date**

**Effective: (date) Revision #:\_\_\_**

### **Handbook Revisions**

The Chief Pilot will provide revisions as necessary. Each revision page will have a revision number and date in the upper right hand corner.

Each person to whom a handbook has been furnished shall keep it up to date with changes and additions furnished to them. The revisions record sheet shall be used to record each revision to the handbook.

When a revision to this handbook is created it will be distributed in the following manner:

The Chief Pilot will distribute the revision sheets to each active pilot assigned to fly (Company Initials). aircraft. Each pilot will then add and delete the appropriate pages in the handbook. The Chief Pilot will keep a control sheet to assure that each manual is updated to the current revision. In addition the Chief Pilot will be responsible for updating the handbooks located at the Drop Zone.

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**Section III: Company Organization Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

The following is a list of the names and responsibilities of persons authorized to have control over (Company Initials). aircraft. This will also serve as a distribution list for those persons that will be issued a copy of this handbook.

* Corporate Officers: (Names)
* Director of Flight Operations: (Name)
* Check Airman: (Name)
* Pilot: (Name) (aircraft checked out in, i.e.: C-182, King Air, etc.)

[Use a separate line for each pilot]

* Director of Maintenance: (Name)

**Chief Pilot - Duties and Responsibilities**

1. Scheduling of flight crewmembers and aircraft.
2. Coordinate scheduling of aircraft maintenance.
3. Assures that aircraft and equipment are available for training and coordinates all training and testing activities of flight crewmembers.
4. Creates and distributes the Flight Operations Handbook and revisions thereto to those listed on page 4 of this handbook. Ensures that revisions have been made to each copy of the handbook via a control sheet.
5. Prepares and maintains pilot records, training records, flight schedules, and correspondence pertaining to operation activities.
6. Maintains current aircraft checklists.
7. Quality control the Fuel Facility - maintains appropriate fuel quantities.
8. Insures that all pilots conform to standard procedures as outlined in applicable FAA Regulation and this handbook and insures that all pilots maintain currency and receive proficiency checks as required by the FAA and this handbook.
9. Maintains proficiency as pilot in command.
10. Must be thoroughly versed on the contents of this handbook, FAA regulations, flight manuals and other instructions pertinent to his duties.
11. Must always comply with part 61, 91 & 105 regulations.

**Director of Flight Operations - Duties & Responsibilities**

1. Direct supervisor for Chief Pilot and Director of Maintenance
2. Hires and dismisses flight operations personnel

**Pilot in Command - Duties & Responsibilities**

The pilot in command reports directly to the Chief Pilot and is responsible for the safe and efficient conduct of the flight assignment. Specific duties are as follows:

1. Determines themselves and their crew (if applicable) are qualified, adequately rested and properly dressed for the flight assignment.
2. Plans flight assignments and obtains briefing information regarding purpose of the flight, weather, operating procedures and special instruction.

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### **Section III: Company Organization, (Continued)**

1. Supervises preparation of flight plans, considering such factors as altitude, terrain, weather, fuel requirements, performance, airport facilities, navigational aids, and weight and balance.
2. Supervises all crewmembers to ensure proper planning and flight preparation.
3. Ensures the aircraft is preflight inspected including a cleaned windscreen to afford maximum visibility, loaded, equipped and manned for the flight assignment.
4. Inspects or supervises inspection of engines, fuselage and control surfaces for mechanical and structural soundness and proper operation of communication and navigational equipment.
5. Performs or supervises loading and distribution of passengers and materials and computes that the weight and balance is within prescribed limitations per information and graphs contained in the aircraft flight manual.
6. Ensures the passengers are properly seated and any other materials are properly secured in the aircraft.
7. Operates the aircraft smoothly and professionally, keeping in mind the comfort and safety of the passengers.
8. At the end of the day parks and secures the aircraft and removes whatever garbage may have accumulated in the aircraft throughout the day.
9. Must be highly knowledgeable of the contents of this handbook, FAA regulations, flight manuals and other instructions pertinent to his duties.
10. Must always comply with part 61, 91, & 105 regulations.

**Section IV: Company Policy Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**General**

All operations of (Company Initials) aircraft & Flight Crews shall be conducted in accordance with Federal Aviation Regulations, State and local Laws and Regulation, Airport rules and the company policies and procedures outlined in this handbook.

**Safety**

(Company Initials) operating policy is based on the concept that safety comes first. Calculated risked in flight operations will not be condoned or tolerated. Essential elements of safety include quality condition of equipment, meticulously inspected before flight, thorough training and motivation of pilots and other personnel, devoted attention to duty, good judgment, sound operational planning and efficient use of resources available. All Personal shall endeavor to perform all operations with the highest degree of safety.

**Reliability**

Reliability is very important to our customers and especially to (Company Initials). Every effort shall be made to provide prompt service to our customers, however, safety shall not be sacrificed in any operation. The Pilot in Command is the FINAL authority to the operation of that aircraft. There will be no pressure placed on the Pilot in Command to make a flight. The pilot’s decision to make a flight will be final and in the interest of safety.

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**Section IV: Company Policy (Cont.)**

**Personal Appearance & Conduct**

As a parachute drop zone, the atmosphere around, (Company Initials). is generally very informal, however all flight personnel of (Company Initials). are expected to present a neat and proper

appearance and conduct themselves in a manner to reflect favorably upon themselves and (Company Initials). This will include clean, tidy clothes, clean- or neatly trimmed beard, fresh breath, and an overall bright-eyed bushy-tailed appearance.

A (Company Initials) shirt with a logo on it will be worn on days when you are flying. These shirts will be available for you to buy at (Company Initials)'s cost.

(Company Initials) flight personnel will not extend their relationships with students further than that required during the course of their duties.

Leave the D.Z. wild tales, personal wild tales, and "hangar flying" for the end of the day. When students are present please maintain a professional image. No one shall use loud, offensive, boisterous or profane language in the presence or hearing of customers. Your activities, both on and off the drop zone can reflect on (Company Initials)'s public image.

**Smoking**

Smoking is prohibited inside any (Company Initials) aircraft. Additionally smoking will not be permitted within 25 feet of any aircraft. The pilot in command will be responsible for enforcement of this rule while that pilot is responsible for their aircraft.

**Pilots**

All pilots are responsible to notify the Chief Pilot of any change in their legal flying status. Further, pilots are cautioned not to accept flight assignments when their physical or mental conditions would be a detriment to the safety of operations. Pilots known to be suffering from mental anguish, anxieties or other problems that would prevent their full concentration and attention to the flight will not be allowed to accept a flight assignment

**Alcoholic Beverages**

Any person that appears to be intoxicated shall not be permitted to board a (Company Initials) aircraft. The use of intoxicants including beer and wine by pilots while on duty or within eight hours prior to duty is prohibited. No pilot may be intoxicated or suffering from the after effects of drinking when reporting for or when on duty.

**Use of Drugs**

Certain drugs have a marked effect on the nervous system, which are detrimental to a flight crew members' flying ability. Flight crewmembers should ask their doctor if any drug that has been prescribed or any non-prescription medications they are taking would have any effect on their judgment or flying ability. Recreational drugs are prohibited.

This is a zero tolerance issue.

**Carriage of Drugs**

No person shall knowingly be allowed to carry narcotic drugs, marijuana or depressant or stimulant drugs aboard any aircraft operated by (Company Initials).

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**Section IV: Company Policy (Cont.)**

**Blood Donations**

In no case will a flight crewmember perform pilot duties within 72 hours after a blood donation. Pilots giving blood donations or who have experienced a substantial loss of blood, will report this fact to the Chief Pilot.

**General Operations**

No pilot may leave an aircraft unattended while the engines are running.

No pilot will operate an (Company Initials) aircraft in less than Part 91 VFR minimums or forecast weather conditions which will exceed aircraft limitations as stipulated in the appropriate flight manual. IFR flight is allowed only if the aircraft is IFR certified.

No aerobatics are tolerated in company aircraft. This is a zero tolerance Issue.

All pilots will cooperate fully with the ATC instructions in accordance with all applicable FAR's. Any problem or conflict with ATC or other aircraft should be reported to the Chief Pilot. Under no circumstances will conflicts be allowed to escalate on the air.

In the event of any incident, NASA form ARC 277 is to be filled out and sent in via certified mail. See Chief Pilot for forms.

All pilots will cooperate fully with FAA officials during any FAA inspections and or tests.

No pilot may knowingly fly a (Company Initials) aircraft if any airworthiness inspection interval will be exceeded prior to the return of that aircraft.

**Section V: Currency Requirements Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Pilot in Command**

No pilot may act as pilot in command of any (Company Initials) aircraft unless that person has:

1. Made at least 3 jump runs in the preceding 3 months for pilots with less than 50 hours of jump piloting experience in type; or
2. Made at least 3 jump runs in the preceding 6 months provided that the pilot has at least 50 hours of jump piloting experience in type; and
3. Successfully completed an (Company Initials) Flight Competency / Proficiency Check within the previous 12 calendar months.

However, a pilot not meeting the requirements of paragraph 1 or 2 of this section may act as pilot in command of a (Company Initials) aircraft providing a Currency Waiver is issued as follows:

A Currency Waiver may be issued to a pilot in command not meeting the requirements of paragraph 1 or 2 by the Chief Pilot, Check Airman, or designated Instructor Pilot. The issuing party must determine the pilot’s knowledge of those maneuvers and procedures that are necessary for the pilot to demonstrate that they can safely exercise the privileges of pilot in command. This determination can be made by discussion or actual flight testing, at the discretion of the person issuing the waiver.

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**Flight Operations Handbook**

**Section V: Currency Requirements Continued**

**Second in Command**

No pilot may act as second in command of an (Company Initials). aircraft unless that person has:

* Successfully completed a (Company Initials) Flight Competency / Proficiency Check within the previous 12 calendar months.

**A/C Documents**

Before the first flight of the day the aircraft should be checked that all required documents are on board. This will include the standard "ARROW documents - Airworthiness Certificate, Registration, Operating Limitations (Flight Manual), and weight and balance information. In addition to these documents there should also be a waiver on board authorizing tandem jumps and a waiver must be on board the aircraft for any jump requiring a waiver, i.e.; an air show, demo jump or High alt. jump.

**Section VI: General Operations Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Preflight Inspection**

The preflight inspection will be performed as depicted in the aircraft flight manual. As there are some differences in the modifications for the jump aircraft, particular attention will be paid to those modifications, i.e.; door latch, step, brake lines, fuel quantity, etc.

**Company Paperwork**

Aircraft status sheets are located on a clipboard on the wall of the Flight Department office. The Aircraft Status Sheet should be consulted to check on the maintenance status of the aircraft as well as squawks or notes from previous pilots.

The aircraft log sheets are contained in a binder kept in the aircraft. This should also be checked to make sure the last ending tach time agrees with the tach. Also in this binder should be the fuel card, a pen and all receipts from fueling.

During flight operations, an entry of the date, pilot’s initials, number of jumpers, altitude, and

tach / Hobbs time should be made in the aircraft log at the end of each flight. When fuel or oil is added a separate line should be used. Any time a discrepancy is found with the aircraft, the pilot noticing the discrepancy should write it down on the squawk area of the Aircraft Status Sheet.

**Fueling Procedures**

Fuel is available at the (Company Initials). fuel facility via a computerized dispensing device located at the fuel islands. Fuel each aircraft as outlined in that aircraft's jump procedures guideline. Hot fueling procedures as per PIA Tech Std #122.

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**Section VI: General Operations Continued**

**Check Lists**

A checklist will be used for each flight and will be provided in the aircraft. One side of the checklist will contain the Originating Check, which will be conducted for the first flight of the day, or if any maintenance function has been performed.

The other side will contain a Turnaround Check, which will be used in subsequent flights of the day unless the pilot feels the need to use Originating Check.

### **Multiple Aircraft Operations**

When a pilot knows there are other airborne company aircraft, he should be precise about the calls to ATC, include the altitude and express anything unusual about the type jump (I.E. Tandem jumpers, crew jumpers, etc.). All aircraft will be on ATC Frequency listening for each other’s calls. Allow at least two minutes of actual elapsed time between your skydivers exit and the previous aircraft’s exit. When following an aircraft dropping tandems, allow 4 minutes of elapsed time.

When dropping static line jumpers or hop and pops at 3000', absolutely maintain that altitude. The higher aircraft are counting on parachutes opening at that altitude, not 3500' or 4000'.

Being partially or wholly responsible for causing a canopy collision or a skydiver injury will be an indiscretion that will haunt a pilot throughout his aviation career. Do not get in a hurry, be patient and if at all in doubt go-around. Remember, you are the pilot in command. No one else, in or out of your aircraft has taken as many variables into consideration as you have while you are flying. No one is responsible for the passengers as much as you are. In this arena there will be multiple opportunities for a pilot to exercise his judgment. Make decisions that you can be proud of.

**Section VII: Radio Communications Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Radio Communications**

Make all appropriate announcements as follows:

* UNICOM: (Frequency #)
* ATC: (Frequency #)

**The Take-off**

Have the transponder on standby. Announce: "(airport) Traffic, (you’re A/C call sign), is departing (Runway #) (appropriate runway as wind dictates) with skydiving over (airport)"

**Climbing out of the Traffic Pattern**

Switch to ATC. Turn the transponder to altitude. On the initial call announce "(ATC) Approach, (your call sign)" only. When ATC acknowledges give them the information they request, usually your current altitude and final altitude. Stay on the ATC frequency to receive traffic advisories.

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**Section VII: Radio Communications Continued**

**Approaching the Exit Point**

Approximately two minutes prior to drop, switch to UNICOM frequency and announce “(airport) traffic (your call sign) has skydiving the next 10 minutes, over (airport)”. Switch back to ATC. Then one minute before the exit announce to ATC"(your call sign) is 1 minute prior". If there is any doubt as to proximity to other jump planes, verify through ATC, prior to releasing jumpers.

**After Exit**

Advise ATC "(your call sign) has jumpers away, descending". If you need to make a go-around announce"(your call sign) has jumpers away - jumping again in two minutes." After all jumpers away, and call to ATC, switch to UNICOM frequency announce “(your call sign) jumpers away, descending

**Descending Through 4000 FT.**

Switch transponder to standby. (Or as required by ATC). Announce to ATC "(your call sign) is squawking standby, switching UNICOM", after ATC acknowledges, switch to UNICOM frequency. On some busy controller days if ATC does not acknowledge this announcement you may switch to UNICOM frequency anyway since, by arrangement, ATC knows when you squawk standby at 4000 feet you are descending to airport.\*

**\* Note:** this procedure is by letter of agreement. Follow your ATC procedures if

 there is no letter of agreement.

**Traffic Pattern Announcements**

Announce that you are on a 45 to the appropriate runway.

Announce your downwind.

Announce your base.

Announce your final.

Announce if you intend to land long.

**Section VIII: Flight Profiles Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Flight Profile / Climbs**

This is an extremely busy area. The issue of vigilance in search of traffic cannot be impressed enough. In general, and in a perfect world all turns should be made to the left for optimum pilot visibility.

Winds permitting, your take-off direction will be your jump run direction.

**Jump Run #1:**

(Describe the exact procedure for flying particular jump run. I.E.: When jump run is to the north, ………)

**Jump Run # 2, 3, etc. (Repeat as necessary)**

On occasion due to winds aloft you may have a jump run opposite your departure direction. Fly jump run as depicted in diagrams.

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**Section VIII: Flight Profiles, Continued**

**Descents**

(Describe the exact procedure for flying descent profile) in a controlled stable manner being extremely conscientious in the search for traffic.

**Traffic Patterns**

Traffic pattern manners are expected to be exemplary. Enter the pattern at traffic pattern altitude on a 45-degree to downwind. If you are sure no other traffic exists in the pattern, a base leg entry is acceptable.

Make all appropriate announcements. Abide by all right of way rules as mandated by the airmen's information manual.

**Section IX: C-182 JUMP PROCEDURES Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Preflight**

1. Complete the preflight as prescribed in the A.F.M.

2. Fuel for apx. 4 loads - Bring the fuel level to 30 gal., total.

Verify with the fuel measurement stick.

**Starting**

1. On the first start of the day, start at the ten-minute call.

2. Start the engine as prescribed in the A.F.M.

3. When the engines has sufficiently warmed up (noticeable movement of the oil temperature gauge) do the run up as per the A.F.M.

**Taxi and Loading**

1. Keep weight off the nose

2. Load jumpers at loading area.

3. Advise jumpers to fasten seat belts.

4. Fly what manifest dictates.

**Take-off**

1. With the transponder squawking standby make your take-off announcement.

2. Feed the throttle progressively to full power.

3. Rotate at 70-MPH minimum.

1. When climb has been established, reduce power to 24.5" MP and RPM's to 2450.

**Climb**

1. Climb at 90 MPH

2. Be alert for traffic.

3. Check engine instruments.

4. When you are out of the airport traffic pattern, switch the transponder to altitude and contact ATC approach.

5. As you gain altitude increase power maintaining 24.5" MP maximum.

6. Above 5000, climb at 80 - 85 MPH.

7. Monitor mixture control, fly slightly rich for cooling.

8. Be alert for traffic.

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**Section IX: C-182 JUMP PROCEDURES Continued**

**Jump Run**

1. Anticipate arrival at altitude and stage the power reduction to 15” MP and 2200 RPM.

2. Make the radio announcements - ATC and Unicom.

3. When power reduction is complete close cowl flaps, if applicable.

4. Target jump run airspeed at 80 MPH.

5. Be alert for traffic.

6. Slip the airplane using left rudder to open the door gently.

7. Trim airplane for the descent while on the jump run.

**Descent**

1. After all jumpers are away, slip the airplane using left rudder to close the door gently and make announcement to ATC.

2. Accumulate airspeed to the top speed of the green arc. **Be alert for traffic.**

3. On the descent maintain 15" MP and 2200 RPM.

4. At 4000 feet squawk standby and announce to ATC, or follow ATC instructions.

5. Be full rich by 3000'.

6. Use carb. heat as necessary.

**Pattern Work - Landing**

1. Make all radio announcements: Entering the 45; Downwind; Base; Final:

And landing long, if that is your intention.

2. Enter the pattern on a mid-field, downwind from level flight.

3. Spot your landing.

4. Land on the mains keeping weight off the nose.

7. Use Carb. heat as needed.

5. After landing re-configure the airplane for the next load.

**Notes:**

1. The airplane should always be ready to fly at least three consecutive loads. If you fly only two loads and anticipate a shutdown period of more than 15 minutes, you should re-fuel to again be ready for 3 consecutive loads.

2. Unless you are the scheduled pilot for the next day; fuel the airplane, clean the windshield and the inside, if needed at the end of your day.

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**Section X: C-182 WORKSHEET Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Systems**

1. Describe the engine type, horsepower, oil type and capacity, minimum fuel grade.
2. Describe the fuel system, capacity, usable and location of drain.
3. Describe the electrical system.
4. Describe the flap system.

**V Speeds**

 **Describe what the following speeds are and what they might be used for.**

| 1. **Va:**
2. **Vfe:**
3. **Vsi:**
4. **Vso:**
5. **Vne:**
6. **Vx:**
 | 1. **Normal Climb Speed:**
2. **Normal Descent Speed:**
3. **VY:**
4. **Normal Approach Speed:**
5. **VG (Best Angle of Glide Speed):**
 |
| --- | --- |

**Weight and Balance**

1. What is the max. gross weight of the A/C?
2. What is the empty weight?
3. What is the max. payload with full fuel?
4. What is the max. fuel with a full load of skydivers? (Assume 180 lbs. per Jumper)
5. What is the C.G. Range ?

**Stalls**

1. Describe the configuration for a power on (Take off) stall and the recovery technique:
2. Describe the configuration for a power off (landing) stall and the recovery technique:
3. Describe stall recovery and prevention (ways to bring nose down)

**General**

1. Describe the procedure for a go-around.
2. Describe the procedure for an engine failure, off airport landing.

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**Section: XI Propeller Systems PT6 Powered Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

**Introduction**

This report, on the operation and testing of the propeller system used on Beechcraft, PT6 powered Aircraft has been prepared as a teaching aid for use in Beechcraft Training Center courses. No attempt has been made to give rigging or maintenance instructions or to diagram associated circuitry. That can be researched in appropriate Maintenance and Wiring Diagram Manuals. Rather, this effort is directed at increasing the pilots' and mechanics' understanding of the theory of operation of a constant - speed, full-feathering, reversing propeller, and in helping them better understand the propeller system checks made in the “Before Take-Off Check-List” in the Flight Manual.

**Blade Angles**

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**Section: XI Propeller Systems PT6 Powered, Continued**

**PRIMARY GOVERNOR**

The primary governor is needed to convert a variable pitch propeller into a constant speed propeller. It does this by changing blade angle to maintain the propeller speed the operator has selected. The primary governor can maintain any selected propeller speed from approximately 1800-RPM to 2200 RPM.

Suppose an aircraft is in normal cruising flight with the propeller turning 1900 RPM. If the pilot trims the airplane down into a decent without changing power, the airspeed will increase. This decreases the angle of attack of the propeller blade causing less drag on the propeller, and thus its RPM begins to increase. If this propeller has variable pitch capabilities and is equipped with a governor set at 1900 RPM, the governor will sense the "overspeed" condition and increase blade angle to a higher pitch. The higher pitch increases the blade's angle of attack, slowing it back to 1900 RPM, or "onspeed".

Likewise, if the airplane moves from cruise to climb airspeeds without a power change, the propeller RPM tends to decrease, but the governor responds to this "underspeed" condition by decreasing blade angle to a lower pitch, and the RPM returns to its original value. Thus the governor gives "constant speed" characteristics to the variable pitch propeller.

Power changes, as well as airspeed changes, cause the propeller to momentarily experience overspeed or underspeed conditions, but once more the governor reacts to maintain the onspeed condition.

There are times, however, when the primary governor is incapable of maintaining selected RPM. To help explain this situation, imagine an airplane approaching to land with its governor set at 1900 RPM. As power and airspeed are both reduced, underspeed conditions exist which cause the governor to decrease blade angle to restore the onspeed condition. If blade angle could decrease all the way to 0 degrees or reverse, the propeller would create so much drag on the airplane that the aircraft control would be dramatically reduced. The propeller, acting as a large disc, would blank the airflow around the tail surfaces, and a rapid nose-down pitch change would result. To prevent these unwanted aerobatics, some device must be provided to stop the governor from selecting blade angles that are too low for safety. As the blade angle is decreased by the governor then, eventually the low pitch stop is reached, and now the blade angle becomes fixed and cannot continue to a lower pitch. The governor is therefor incapable of restoring the onspeed condition, and the propeller RPM falls below the selected governor RPM setting.

**PRIMARY LOW PITCH STOP**

It is easy for the pilot to determine when his propeller blade angle is at the low pitch stop. Assuming the propeller is not feathered or in the process of being feathered--

WHENEVER THE PROPELLER RPM IS BELOW THE SELECTED GOVERNOR RPM, THE PROPELLER BLADE ANGLE IS AT THE LOW PITCH STOP.

For example, if the propeller control is set at 2000 RPM but the propeller is turning at less than 2000 RPM, the blade angle is at the low pitch stop.

Figure 2, on the following page, shows the correlation between power lever position and the primary low pitch stop position.

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**Section: XI Propeller Systems PT6 Powered, Continued**

**Lower Lever diagrams Primary low pitch stop diagrams** 

On many types of airplanes, the low pitch stop is simply at the low pitch limit of travel, determined by the propeller's construction. But with a reversing propeller, the extreme travel in the low pitch direction is past 0 degrees, into reverse or negative blade angles. Consequently, the low pitch stop on this propeller must be designed so that it can be removed or repositioned when reversing is desired.

The low pitch stop is created by mechanical linkage sensing the blade angle. The linkage causes a valve to close to stop the flow of oil coming into the propeller dome. Since this oil causes low pitch and reversing, once it’s blocked off a low pitch stop has been created.

The position of the primary low pitch stop is controlled from the cockpit by the power lever. Whenever the power lever is at IDLE or above, this stop is set at 15 degrees (+1 degree) blade angle. But bringing the power lever aft of IDLE progressively repositions the stop to blade angles less than 15 degrees.

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**Section: XI Propeller Systems PT6 Powered, Continued**

Keep in mind that just because the primary low pitch stop has been moved back to smaller angles than 15 degrees, this only affects the actual blade angle when it is on the low pitch stop. It follows, then, that as long as the propeller RPM is still on the selected governor setting, bringing the power lever aft of IDLE will not cause the propeller to reverse. (This action does, however, tend to damage the linkage which provides the low pitch stop.) Only when the propeller RPM is below the selected governor RPM does reversing actually occur when the power lever is brought aft. This is because in this condition the blade angle is on the low pitch stop, which is being repositioned into the reversing range.

The region between 15 degree and -5 degree blade angle is referred to as the "Beta for taxi" range. In this range, the engine's compressor speed (N1) remains at the value it had when the power lever was at IDLE (50% to 70%, based on condition lever position). From -5 degree to -11 degree blade angle, the N1 speed progressively increases to a maximum value at -11 degree of approximately 85%. This region, designated by red and white stripes on the power lever gate, is referred to as the "Beta plus power" range, and ends at maximum reverse.

**OVERSPEED GOVERNOR**

The overspeed governor provides protection against excessive propeller speed in the event of primary governor malfunction. Since the PT6's propeller is driven by a free turbine ( independent of the engines compressor) overspeed can rapidly occur if the primary governor fails.

The operating point of the overspeed governor is set at 4% greater than the primary governor's maximum speed. Since the maximum propeller speed selected on the primary governor is 2200 RPM, then the over speed governor is set at 2288 RPM. As a runaway propeller speed reaches 2288 RPM, the overspeed governor will begin increasing blade angle to a higher pitch, to prevent the RPM from continuing its rise. From a pilot's point of view, a propeller tachometer stabilized at approximately 2288 RPM would indicate failure of the primary governor and proper operation of the overspeed governor.

As will be explained later in this report, the set point of this governor can be rescheduled down to approximately 2000 RPM for test purposes.

**SECONDARY LOW PITCH STOP**

To provide protection against inadvertent reversing due to malfunction of the primary low pitch stop, the propeller is equipped with a secondary low pitch stop. Like the primary, this secondary stop blocks the flow of oil into the propeller dome. But whereas the primary stop is mechanically activated, the secondary stop is electric. And, unlike the primary low pitch stop, which can be repositioned for reversing, the secondary low pitch stop is set only at a 12-degree blade angle.

Because 15 degrees and 12 degrees is so similar, it would be nearly impossible for the pilot to know that his primary low pitch stop has failed and that the blade is at the secondary low pitch stop if no indicating systems were incorporated into the design. Thus, whenever electric power triggers the secondary low pitch stop, a red annunciator panel light labeled "Secondary Low Pitch Stop" illuminates,. (LH or RH as appropriate.) On some earlier 90 series King Airs, this label was "Secondary Flight Idle Stop."

When the secondary low pitch stop is triggered, electric power is sent to the secondary low pitch stop solenoid which then closes a normally open valve to prevent any oil from entering the propeller dome. However the oil already in the dome will slowly leak out around the transfer gland, which allows the propeller to slowly move toward higher pitch.

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**Flight Operations Handbook**

**Section: XI Propeller Systems PT6 Powered, Continued**

Moving away from 12 degrees, the secondary low pitch stop solenoid valve will open, allowing more oil to enter and sending the blade angle back to 12 degrees. The secondary stop then triggers again; once again the leak moves the blade angle to more than 12 degrees, again the valve opens, and the cycle repeats indefinitely. As electric power is cycling then to compensate for this normal oil leakage, it would be logical to assume that the secondary low pitch stop warning light would also be cycling on and off. This is the case for LJ-572 and after, and LW-37 and after. However, earlier airplanes incorporated a locking circuit to prevent the light from blinking, even when the solenoid was cycling.

When the power lever is lifted to go aft of IDLE, a switch in the pedestal opens to remove the electric power from the Secondary Low Pitch Stop System. This prevents the 12-degree stop from operating and allows the blade angle to continue past 12 degrees into reverse. In summary, lifting the power lever removes the secondary low pitch stop.

If the secondary low pitch stop fails by not working (e.g., the solenoid valve sticks open, or the electrical circuit is open, or the battery and generator switches are accidentally turned off), the pilot would normally not be aware of this failure in flight. Why? Because the secondary stop does not have to operate since the primary stop is operative. But in this situation, there is no longer back-up protection for primary stop failure, so the operator should recognize the necessity for frequent pre-flight checks of his propeller system, which will be explained later in this report.

Now suppose the secondary stop fails due to an electrical short, which locks power onto the solenoid (sending normally open valve to its closed position). In this malfunction, the secondary low pitch stop solenoid valve cannot cycle like it should, and therefor the leak around the transfer gland will slowly but surely send the blade angle to high pitch (eventually reaching the feathered position if allowed to continue for a sufficient amount of time). If this type of failure occurs in flight, the pilot will notice the illumination of the " Secondary Low Pitch Stop" annunciator panel light accompanied by a slow, steady decrease in propeller RPM as the prop feathers. Unless the power lever is retarded, torque limits will likely be exceeded (unless torque happened to be very low initially).

If the pilot does retard the power lever to IDLE and the propeller feathers, what is he to do now? One option is to shut the engine down and proceed on one engine. Another is to pull the circuit breaker for the system and return to normal cruise power. Pulling the breaker will remove electric power from the short, allowing the propeller to return to nearly normal operation. Nearly normal, not completely normal, because now the aircraft does not have any secondary low pitch stop protection and, as noted above, a primary low pitch stop failure would now remove all pitch stop protection.

A third option is to pull the circuit breaker during cruise, but to reset it and shut down the affected engine for landing. In normal cruise, the governor, not the low pitch stop is controlling blade angle, so the loss of a low pitch stop is not critical. But at the reduced airspeed and power used for landing, the low pitch stop will eventually be needed, and thus resetting the circuit breaker makes available secondary low pitch stop protection to the operating engine's propeller.

Because of the reliability record of primary low pitch stops, coupled with the extremely low probability of multiple failures, most pilots would probably select the second option. Namely, pull the circuit breaker, return to normal power, and land with both engines operating. The responsibility for determining which action to take lies with the pilot, considering all existing conditions. In any case, the malfunction should be corrected before the next flight.

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**Flight Operations Handbook**

**Section: XI Propeller Systems PT6 Powered, Continued**

On those airplanes which incorporate a locking circuit for the secondary low pitch stop light, the light may occasionally illuminate and stay illuminated for no apparent reason. (Rarely in flight; sometimes when rapidly returning the power levers to IDLE from reverse.) In these cases there has been a momentary application of power to the secondary low pitch stop, but the light will remain illuminated until the propeller test switch (LH or RH as appropriate) on the pilot's sub-panel is depressed and released.

**BEFORE TAKE-OFF PROPELLER CHECKS**

In the NORMAL PROCEDURES section of the Airplane Flight Manuals, the "Before Take-off Checklist" contains the propeller checks or test by which a pilot or mechanic can determine the status of the propeller system. These tests may be "omitted for quick turn-around at pilot's discretion," and many pilots run them only on the days first flight. The checks involve the following steps:

### **Overspeed Governors- Test**

**A.** Propeller Controls - HIGH RPM. By assuring that the propeller controls are full forward (normally they will already be there on the ground), the operator knows that the primary governor is set at 2200 RPM. Since the idle RPM on the ground is below this value, you know that the blade angle is at the low pitch stop.

**B.** Power Levers - BELOW 1900 RPM. This step will usually be accomplished automatically since LOW IDLE propeller speed is near 1000 RPM.

**C.** Overspeed Governor Test Switches - HOLD TO PROP GOV TEST. The operator reaches his left hand across to the test switches located on the pilot's right sub-panel and holds them both up to the "PROP GOV TEST"

**D.** Power Levers; INCREASE TO STABILIZED RPM (Observe ITT and Torque Limits). As power is added, the propeller RPM increases until the governor speed is reached, then the RPM stabilizes (remains constant) even though torque and N1 are still increasing. If the stabilization occurs at approximately 2000 RPM, the overspeed governor is apparently operating correctly.

But if the stabilization does not occur until reaching 2200 RPM, then the primary governor is working but the overspeed governor is not testing as it should.

If the test switches were released when the propeller RPM has stabilized at approximately 2000 RPM on the overspeed governors, the propeller RPM should increase to 2200 RPM. If the switches were then held again, the RPM should drop back to the test setting but this drop occurs very abruptly. To minimize this unnecessary wear, step "B" guarantees that the RPM is below the test setting before the switches are applied.

**E.** Power Levers - REDUCE TO 1900 RPM. Once the propeller RPM drops below the stabilized test setting, the blade angle has again become fixed at the low pitch stop. In other words, the propellers are "off" of the overspeed governors.

**F.** Propeller Test Switches - RELEASE. The overspeed governors should automatically return to 2288 RPM. Since power has been reduced to 1900 RPM, the RPM will not rise.

**CAUTION:** To minimize blade erosion, this check should be accomplished on a clean run-up area, free of sand and gravel.

**( Your Company )**

**Flight Operations Handbook**

**Section: XI Propeller Systems PT6 Powered, Continued**

**Primary Governors- Exercise at 1900 RPM**

As the propeller levers are moved from full forward aft to (but not into) the feather detonate, the RPM should decrease from 1900 RPM. Then as the levers are repositioned full forward, the RPM should return to 1900. This shows that the primary governor is operating.

The next test in some flight manuals is for AUTO-FEATHER; in others it is for ENGINE ICE PROTECTION CONTROLS. Since the power levers are still set to give 1900 RPM, this is a convenient time to perform either or both of these checks, as described in the manuals.

**Secondary Low Pitch Stop (Reversing Propellers) - Test**

**A.** Condition Levers - HIGH IDLE. 70% N1 is the reference power setting used during these checks. High Idle will cause the propeller to turn with more authority (and thus be less affected by wind conditions) than low Idle. The N1 speed will remain constant, so that all propeller RPM changes will be caused by blade angle changes alone, not by N1 changes.

**B.** Power Levers - IDLE (Read Propeller RPM). Normally (without auto-feather) the power levers will still be set forward enough to give 1900 RPM during step "A". But now they are reduced to IDLE to let the engine's speed decrease to 70% N1. The RPM will now be below 2200, which is the selected governor setting, and thus the blade angle should be at 15 degrees, on the Primary Low Pitch Stop (PLPS). (See Fig. 2) By reading the RPM, the operator can determine the correctness of the PLPS setting.

Suppose the PLPS were accidentally set to 20 degrees. This higher pitch would cause a lower RPM. Conversely, a blade angle less than 15 degrees would give a higher RPM. At 15 degree blade angle and 70% N1, the propeller speed should be close to 1500 RPM.

Altitude, temperature, and wind conditions will vary the RPM somewhat, but a RPM consistently greater than 1600 or less than 1400 usually is an excellent indication that the Primary Low Pitch Stop is incorrectly adjusted.

In this step then, the position of the PLPS is being checked.

**C.** Propeller Test Switches - HOLD TO SECONDARY IDLE STOP TEST. This action completes an electrical circuit, which bypasses the power lever switches - the ones that open when the power levers are lifted. Thus the Secondary Low Pitch Stop (SLPS) will be capable of operating even after the levers are lifted.

**D.** Power Levers - ALIGN AFT EDGE WITH TOP OF REVERSE RANGE MARKS. The PLPS is now being reset from 15 degrees to -5 degrees (See Fig. 2). However, as the blade angle reaches 12 degrees, the SLPS should operate, and step "E" and "F" will check that it does. Be careful not to force the power levers too far aft into the striped range, as the Primary Low Pitch Stop linkage may be damaged.

**E.** Secondary Low Pitch Stop Lights - CHECK ON. This is one check that the Secondary Low Pitch Stop did begin operating in step "D". But the lights, by themselves, give no guarantee that the SLPS works correctly. The SLPS solenoid valve could be completely inoperative, and yet if the sensor operated, the lights would still illuminate. Also, the SLPS sensor could be set anywhere between 15 degrees and -5 degrees, and the lights could operate, even though a SLPS at 0 degrees would be useless for true in-flight protection. Step "F" is much more important than step "E" and must not be overlooked.

**( Your Company )**

**Flight Operations Handbook**

**Section: XI Propeller Systems PT6 Powered, Continued**

**F.** Propeller RPM - CHECK STABILIZED AT 210 40 ABOVE RPM IN STEP "B". As the blade angle decrease from 15 to 12 without a change in N1, the propeller RPM should increase 210 RPM (with a 40-RPM tolerance). If the SLPS is set to flat, the RPM rise will be excessive; too high pitch (closer to 15) will cause too small an increase of RPM.

An excessive rise (over 250-RPM) indicates that the SLPS is at too flat a blade angle, and if needed in flight it could cause excessive and dangerous drag. The SLPS sensor should be adjusted to give the proper RPM rise to correct this unsatisfactory condition.

**G.** Propeller Test Switches, RELEASE. This step opens the bypass around the power lever switches, which are themselves open since the power levers have been lifted. Thus, the Secondary Low Pitch Stop is removed, & the blade angle should move from 12 to -5.

**H.** Propeller RPM - CHECK (Must increase above step "F"). As blade angle moves from the Secondary Low Pitch Stop (12) to the Primary Low Pitch Stop (which has been set at

 -5 by the power lever position), the RPM should increase due to less drag on the turning propeller. If the propeller RPM does not change, perhaps the Secondary Low Pitch Stop is not releasing when the power levers are lifted, and thus reversing is not available. Or, perhaps the power lever linkage is out of adjustment badly enough that the top of the striped area only corresponds to 12 instead of -5, so there is no reason for the blades to go flatter when the switches are released.

**I.** Power Levers - IDLE. The check is completed; the blade angle returns to 15. On those aircraft that have a locking device on the Secondary Low Pitch Stop light to prevent blinking, momentarily depress the propeller test switch to extinguish the light.

After this step in the checklist, instrument vacuum and pneumatic pressure are checked while engines are still at HIGH IDLE. Then, after the condition levers have been retarded to LOW IDLE, propeller feathering (manual, as compared to AUTOFEATHER) is checked. In this free turbine engine the propeller may be allowed to completely feather with the compressor operating at LOW IDLE, with no engine damage sustained. However, operation on the ground, in feather, for extended periods may overheat the fuselage and possibly damage nose-mounted avionics because hot exhaust gases are not being blown aft by the propeller's air blast.

This report has attempted to explain the operation and testing of BEECHCRAFT King Air and 99 Airliner three-bladed propellers. Further explanation is given in pilot and maintenance training courses conducted at the Beechcraft Training Center.

**( Your Company )**

**Flight Operation Handbook**

**Section XII: King Air B-90 Jump Procedures Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

**King Air B-90 Jump Procedures**

The King Air B-90 has been proven to be an excellent jump ship. An impressive climb rate and expeditious decent result in 3 to 4 loads per hour to 13,000 feet. The following are procedures that, since their implementation have resulted in substantially reduced maintenance cost, so it is important that they be adhered to religiously.

Contrary to popular opinion, a turbine engine can be shock cooled, and abrupt power changes put a tremendous strain on the gearbox between the propeller and the power turbine. Pilots need to be extremely conscientious and plan far ahead while operating this airplane. Remember if you as the pilot make a mistake, do not make the aircraft or the skydivers pay for it. Make all turns, and power changes smoothly for the benefit of the equipment and your passengers.

**Preflight**

1. Complete the preflight as per the A.F.M.

2. Fuel for 4 to 6 loads, 160 gallons total maximum.

**Starting**

1. Be thoroughly knowledgeable about starting technique and engine clearing procedures as described in the A.F.M.

2. The first start of the day should be done at the 10-min. call.

3. Start the engines with the start cart. (For Battery start, see A.F.M.)

4. Start the downwind engine first, preferably the left with props out of feather.

5. Spool to 20% for 5 seconds.

6. Move the condition lever to low idle.

7. Keep the start temperature below 700 degrees C.

8. Keep generators off for at least 2 minutes.

9. All necessary switches on - transfer pumps, crossfeed to auto, inverter, radio master, beacons, seat belts and fuel controls.

10. Leave ice doors closed for ground ops.

11. Complete the run - up. as per A.F.M.

**Taxi-Loading**

1. Pick up jumpers at ramp 2 and advise them to fasten seatbelts.

2. On hot days turn generators off for lower ITT while loading, if necessary.

3. Fly what the manifest dictates.

4. Ensure Red exit light is on.

**Take-Off**

1. Announce the take-off note transponder squawking standby.

2. On the take-off roll advance the power levers smoothly to the first limiting factor;

 700 degrees C or 1300 lbs. torque - remember these increase with speed.

3. Monitor all instruments conscientiously.

4. When you have a positive rate indication raise the gear.

5. Stabilize the climb power at 2000 RPM and 680 degrees C.

1. When out of UNICOM County traffic pattern contact ATC and squawk altitude.

**Climb**

1. Climb at 110-120 knots.

2. Be alert for traffic.

3. Monitor engine instruments.

**( Your Company )**

**Flight Operations Handbook**

**Section XII: KING AIR B-90 JUMP PROCEDURES CONTINUED.**

**Jump Run**

1. Anticipate arrival at altitude and stage the power reduction 100 lbs. of torque at time until reaching 400 lbs.

2. Make the radio announcements.

3. When established on jump run lower the flaps to approach position. Flash Red/Green lights this signals the jumpers they may open the door.

4. Target airspeed at 85 - 90 knots - however, use whatever is necessary to maintain positive pitch control! Bigger loads require more airspeed.

5. When you are ready for jumpers to go, turn on Green light. When the jumpers are away at the 9000-foot pass, smoothly advance the power back to climb power.

6. Announce to ATC jumpers are away - climbing to next altitude or descending as the case may be. If descending skip to the Descent section now.

7. Whenever you are re-established in climb-raise the flaps.

8. Establish jump run at the top as in the earlier 9000' pass.

9. Make the announcement to ATC and UNICOM.

10. When you are ready for jumpers to go, lower the flaps to 80% minimum to full flaps and turn on Green light. (**Note**: Approach flap position is O.K. at the 9000' pass.)

11. Target 85 - 90 knots - but again, use whatever is necessary to maintain positive pitch control! Depending on floaters this could be above 100 knots.

12. As the jumpers exit and the aircraft becomes lighter, continue the power reduction to

 flight idle.

**Descent:**

1. When all jumpers are away, raise the flaps and announce to ATC.

2. Always make initial descending turn to the right.

3. Descend at no more than 185 knots.

4. Be alert for traffic.

5. At 4000 feet announce to ATC, squawk standby and switch to UNICOM.

6. Make all traffic pattern announcements.

7. After your landing, re-configure the airplane for the next load.

**Notes:**

1. If you suspect a go-around will be needed do not reduce power below 400 lbs. of torque. Whenever a go-around is needed increase power to 600 lbs. per torque as you simultaneously lower the nose, raise the flaps, and bank the airplane in the direction you wish to turn. Allow the airspeed to increase until the airplane re-establishes climb, then establish jump run as previously noted. This method will bring you further downwind of the spot for a more adequate jump run length and results in go-around of approximately 2 minutes.
2. When fueling with the engines running - put both engines in feather. Set the parking brakes and have the wheels chocked. Fuel only the wing tanks. Refer to PIA standard for hot fueling.

**( Your Company )**

**Flight Operations Handbook**

**Section XIII: King Air B-90 Work Sheet Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

**SYSTEMS**

1. Describe the engines: type, horsepower, minimum oil grade and capacity, minimum fuel grade, etc.
2. Describe the fuel system: number and location of tanks, capacity of each, minimum usable fuel, number and location of fuel drains, number and location of boost pumps, etc.
3. Describe the electrical system: generators and capacity, batteries and their amp-hour ratings; draw a general picture of the system, including all busses, batteries and generators, etc. Also describe the starter limits.
4. Describe the flap system.
5. Describe the landing gear system.

**V SPEEDS**

**What are the following speeds and the definition for each.**

| 1. **Vso:**
2. **Vsi:**
3. **Vmc:**
4. **Vr:**
5. **Vx:**
6. **Vy:**
7. **Vxse:**
 | 1. **Vyse:**
2. **Va:**
3. **Vlo:**
4. **Vle:**
5. **Vfe:**
6. **Vne:**
 |
| --- | --- |

**PERFORMANCE**

**For the following conditions, answer these questions:**

- Field elevation - UNICOM County Airport: 98’

- Temperature: **1)** 100 degrees F **2)** 75 degrees F

 (Note: two temperatures mean two answers.)

- Wind- Calm

- Full load of jumpers with parachutes (assume 185 lbs. per jumper)

- Fuel Load - Nacelles full and 20 gallons each outboard or max. for conditions.

1. What will be your take off distance? 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

Over a fifty foot obstacle? 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

1. What will be your landing distance? 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

#### Over fifty foot obstacle? 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

**( Your Company )**

#### Flight Operations Handbook

**Section XIII: KING AIR B-90 WORK SHEET CONTINUED**

1. What will be your single engine rate of climb?

 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

1. What will be your single engine rate service ceiling?

 1)\_\_\_\_\_\_\_\_\_\_2)\_\_\_\_\_\_\_\_\_\_

**WEIGHT AND BALANCE** (for the above conditions)

1. What is the C.G. range?
2. What is the actual C.G.?
3. What is the C.G. range and actual C.G. after the jumpers have left the aircraft?
4. What is the max. gross weight for take off?
5. What is the empty weight?
6. What is the useful load with full fuel? And 160 Gals fuel?

**GENERAL**

1. In the event of induction ice, what is the procedure?
2. What are the unsafe gear indications?
3. What is the emergency gear extension procedure?
4. How do you detect a generator failure?
5. Describe the go around procedure?
6. When must your passengers wear their seat belts?
7. What inspections are required for this aircraft?
8. What documents must be on board during flight?
9. Describe Vmc and Vmc recovery.
10. Describe Stall recovery and Prevention (ways to bring nose down).

**Pilot Candidate’s Signature:**

**Name:** **Date:**

**Reviewed by (Instructor): \_\_ Date:**

**Comments:**

**( Your Company )**

**Flight Operations Handbook**

**Section XIV: -20 TWIN OTTER JUMP PROCEDURES Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

**Preflight**

1. Complete the preflight as per the A.F.M.

2. Fuel for 3 loads 450 pounds each forward and aft.

**Starting**

1. Be thoroughly knowledgeable with starting technique and engine clearing procedures as described in the A.F.M.

2. The first start of the day should be done at the 10-min. call.

3. Start the engines with the start cart.

4. Start the downwind engine first, preferably the left with props out of feather.

5. Spool to 20% for 5 seconds.

6. Move the condition lever full forward

7. Keep the start temperature below 700 degrees C.

8. Power to 65% NG- reset generators, one at a time.\*

**NOTE\*** Ensure load below **.4** prior to resetting next generator.

9. All necessary switches on - Hydraulic pump, fuel level indicators, beacons, seat belts, anti-collision strobes, radios and transponder.

10. When generator load is below .4 reduce power to idle.

11. Complete the run - up. as per A.F.M.

**Taxi-Loading**

1. Pick up jumpers at ramp 2 and advise them to fasten seatbelts.

2. Fly what the manifest dictates.

3. Ensure Red exit light is on.

**Take-Off**

1. Announce the take-off, note transponder squawking standby.

2. On the take-off roll advance the power levers forward smoothly to the first limiting factor, 700 degrees C or 40 lbs. Torque, remember these increase with speed.

3. Monitor all instruments conscientiously.

4. Stabilize the climb power at 90% RPM and 680 degrees C.

5. When out of UNICOM County traffic pattern contact ATC and squawk altitude

**Climb**

1. Climb at 90 knots.

2. Be alert for traffic.

3. Monitor engine instruments.

**Jump Run**

1. Anticipate arrival at altitude and stage the power reduction 5 lbs. of torque at time until reaching apx. 15 lbs.

2. Make the radio announcements.

3. When established on jump run, flash Red/Green light to signals the jumpers, OK to open the door.

4. Target airspeed at 90 knots. - however, use whatever is necessary to maintain positive pitch control! Bigger loads require more airspeed.

5. If it is a lower altitude pass, smoothly advance the power back to climb power.

6. Announce to ATC jumpers are away - climbing to next altitude or start descent as the case may be. If descending skip to the Descent section now.

7. Establish jump run at the top as on lower pass and repeat items # 2, 3, 4 & 6.

**( Your Company )**

**Flight Operations Handbook**

**Section XIV: -20 TWIN OTTER JUMP PROCEDURES Continued**

**Descent:**

1. As the jumpers exit, continue the power reduction to flight idle.

2. Always make initial descending turn to the right.

3. When all jumpers are away, announce to ATC.

4. Descend at no more than 140 knots. (Door Limitations)

5. Be alert for traffic.

6. At 4000 feet announce to ATC, squawk standby and switch to UNICOM.

7. Make all traffic pattern announcements.

8. After your landing, re-configure the airplane for the next load.

**Notes:**

1. If you suspect a go-around will be needed do not reduce power below 15 lbs. of torque. Whenever a go-around is needed increase power to 25-lbs. torque and bank the airplane in the direction you wish to turn.

2. When fueling with the engines running - put both engines in feather. Set the parking brake and chock the wheels. If OAT is greater than 90 F bring props out of feather with-in 2 min.

**( Your Company )**

**Flight Operations Handbook**

**Section XV: Twin Otter Work Sheet Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

**SYSTEMS**

1. Describe the engines: type, horsepower, minimum oil grade and capacity,

minimum fuel grade, etc.

1. Describe the fuel system: number and location of tanks, capacity of each, minimum usable fuel, number and location of fuel drains, number and location of boost pumps, amount of fuel in each tank when low fuel level lights illuminate.
2. Describe the electrical system: generators and capacity, batteries and heir amp-hour ratings. Also describe the starter limits.
3. What are the three hydraulically operated components? Describe how they function.

**V SPEEDS**

**What are the following speeds and the definition for each.**

| 1. **Vso:**
2. **Vsi:**
3. **Vmc:**
4. **Vr:**
5. **Vx:**
6. **Vy:**
7. **Vxse:**
 | 1. **Vyse:**
2. **Va:**
3. **Vlo:**
4. **Vle:**
5. **Vfe:**
6. **Vne:**
 |
| --- | --- |

**PERFORMANCE**

**For the following conditions, answer these questions:**

- Field elevation - UNICOM County Airport: 98’

- Temperature: **1)** 100 degrees F **2)** 75 degrees F

 (Note: two temperatures mean two answers.)

- Wind- Calm

- Twin Otter - Full of jumpers with parachutes (assume 185 Lbs. per Jumper)

- Fuel Load - 300 lbs. each forward and aft tanks

18. What will be your take off distance? 1. 2.

 Over a fifty foot obstacle? 1. 2.

1. What will be your landing distance over a fifty-foot obstacle?

 1. 2.

**( Your Company )**

**Flight Operations Handbook**

**Section XV: TWIN OTTER WORK SHEET CONTINUED**

20. What will be your single engine rate of climb?

 1. 2.

21. What will be your single engine rate service ceiling?

 1. 2.

**WEIGHT AND BALANCE** (for the above conditions)

22. What is the C.G. range?

1. What is the actual C.G.?

24.What is the C.G. range and actual C.G. after the jumpers have left the aircraft?

1. What is the max. gross weight for take off?
2. What is empty weight?
3. What is the useful load with full fuel?

### **GENERAL**

1. What is the appropriate action for propeller overspeed?
2. You've lost fuel pressure on one of the engines and have a subsequent flameout.

##### What is the probable cause and appropriate course of action?

1. How do you detect a generator failure?
2. Describe the go around procedure?
3. When must your passengers wear their seat belts?
4. What inspections are required for this aircraft?
5. What documents must be on board during flight?
6. Describe VMC and VMC recovery.
7. Describe stall recovery and prevention (ways to bring nose down)

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:**

**Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Reviewed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_**

 **Instructor**

**COMMENTS:**

**( Your Company )**

**Flight Operations Handbook**

**Section XVI: Cessna Caravan C-208 Jump Procedures Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

The Caravan has proven itself as an efficient jump aircraft. Holding up to 16 jumpers, its overall performance has rendered it a prize in our fleet.

These procedures are developed to maintain a high safety standard and help reduce the maintenance cost, so it is vital to thoroughly know these procedures.

Contrary to popular opinion, a turbine engine can be shock cooled. And abrupt power changes put a tremendous strain on the gearbox between the propeller and the power turbine. One must be extremely aware and stay ahead of this aircraft.

Make all turns and power changes smoothly for the benefit of the equipment and for your passengers.

**Preflight**

1. Complete the preflight as per the A.F.M.
2. Fuel for 4 loads, (approx. 350 lbs. per side)

**Starting**

1. Be thoroughly knowledgeable about starting technique and engine clearing procedures as described in the A.F.M.
2. The first start of the day should be made at the 10-min. call.
3. Start the engine with the start cart as per the A.F.M. (if necessary to do a battery start, again refer to A.F.M.
4. Make sure the propeller is out of the feather position.
5. Move the fuel condition lever into low idle with no less than 12% ng.
6. Watch the ITT gauge as engine begins to ignite.
7. When engine is stabilized, turn the external power switch to off, and disconnect the cart. (omit the EPU procedure of starting with battery only).
8. All necessary switches on, boost pump on norm, transponder on standby.
9. Complete run up as per the A.F.M.

**Taxi-Loading**

1. Pick up jumpers at ramp 2 and advise to fasten seatbelts.
2. Fly what manifest dictates.

**Take-Off**

1. Announce take-off, note transponder on standby.
2. On take-off roll, advance power lever smoothly to first limiting factor-750 degrees C or 1900 lbs. Torque - remember, these increase with speed.
3. Monitor all instruments conscientiously.
4. Stabilize climb power, (top of the green on temp or torque).
5. When out of Airport traffic pattern, contact ATC and squawk altitude.

**( Your Company )**

**Flight Operations Handbook**

**Section XVI: CESSNA CARAVAN C-208 JUMP PROCEDURES CONTINUED**

### **Climb**

1. Climb at 100 knots, above 9000-ft. climb at 90 knots.
2. Be alert for traffic.
3. Monitor engine instruments

**Jump Run**

1. Anticipate arrival at altitude and stage power reduction 100 lbs. of torque at a time until reaching 350 lbs.
2. Make radio announcements.
3. When established on jump run, lower flaps to approach position. Flash jump lights to signal the jumpers to open the door.
4. Target airspeed at 90 knots- however use whatever is necessary to maintain positive pitch control. Bigger loads require more airspeed.
5. When you are ready for jumpers to go, turn on “Exit” light. If you have a low altitude pass followed by high altitude pass(es), when jumpers are away, smoothly advance the power back to climb power.
6. Announce to ATC that jumpers are away and climbing to next altitude or descending, whatever the case may be.
7. If descending or when re-established in climb, raise flaps.
8. At altitude, repeat items # 1 – 7.
9. On the final drop, as the jumpers exit and the aircraft becomes lighter, continue the power reduction until at flight idle.

**Descent**

1. When all jumpers are away, raise the flaps and announce to ATC.
2. Always make initial descending turns to the right.
3. Descend at no more than 155 knots.
4. Be alert for traffic.
5. At 4000 ft., announce to ATC, squawk standby and switch to Unicom.

(Or follow ATC instructions)

1. Make all traffic pattern announcements.
2. After landing, reconfigure the plane for the next load.

**( Your Company )**

**Flight Operations Handbook**

**Section XVII: Cessna Caravan C-208 Work Sheet Revised: (Date)**

**Effective: (Date) Revision #:\_\_\_**

**General**

1. What is the maximum takeoff weight?
2. What is the maximum landing weight?
3. How much fuel is allowed for start and taxi?
4. What type and model engine is used in this C-208?
5. The compressor section has how many stages?
6. The PT6A-114A has two turbines, one drives the and one drives the .
7. What is the shaft horsepower of the –114 engine? flat rated.
8. The propeller is McCauley constant speed reversible, hydraulically operated, propeller.
9. Normally, fuel is used.
10. Can aviation fuel be used in an emergency? Explain
11. Fuel capacity? Useable? with both tanks on.
12. To obtain an accurate oil reading, it is recommended that the oil be checked within

\_\_\_\_\_\_\_\_ minutes after shutdown.

1. An operating procedure, technique, or maintenance practice which may result in or loss of life if not followed is a !
2. An operating procedure, technique, or maintenance practice which may result in damage to equipment if not followed is a .
3. An operating procedure, technique of maintenance condition which is considered essential to emphasize is a .

# **Limitations**

1. Maximum operating speed (Vmo) is \_\_\_\_\_\_\_ KIAS.
2. Maneuvering speed is 150 KIAS in the 208 at \_\_\_\_\_\_\_ gross weight.
3. Maneuvering speed is 114 KIAS in the 208 at \_\_\_\_\_\_\_ gross weight.
4. Maximum flap speeds are: Flaps 10\_\_\_\_\_\_ Flaps 20\_\_\_\_\_\_ Flaps 30\_\_\_\_\_\_\_
5. Do not exceed \_\_\_\_\_\_\_\_ with the window open.
6. Maximum weight Vs at most forward CG with flaps retracted is \_\_\_\_\_\_ in the 208.
7. Maximum weight Vso (landing configuration) is \_\_\_\_\_\_\_ in the 208.
8. Is it permissible to mix types or brands of oil? \_\_\_\_\_\_\_\_\_\_
9. Flight operation with the power retarded below \_\_\_\_\_\_\_\_ is prohibited.
10. Maximum power setting for takeoff and climb is: Torque \_\_\_\_\_ft/lbs; ITT \_\_\_\_\_\_\_, Ng; \_\_\_\_\_\_\_\_RPM; Propeller \_\_\_\_\_\_\_\_\_RPM.
11. Reverse power operation is time limited to \_\_\_\_\_\_\_\_\_\_\_\_
12. Maximum ITT for starting is \_\_\_\_\_\_\_\_\_C for seconds.
13. Maximum cruise ITT is \_\_\_\_\_\_C, continuous.
14. Starter cycle limits are:

( \_\_\_\_ seconds on, sec. off)( \_\_\_\_ sec. on, \_\_\_\_ sec. off)( \_\_\_\_ sec. on, \_\_\_\_ min off)

1. Are aerobatic maneuvers, including spins, approved? .
2. Maximum flight load factors are: Flaps up: \_\_\_ +G, \_\_\_ -G; Flaps down: \_\_\_ +G, \_\_\_ -G
3. Can the airplane be flown solo from the right seat? \_\_\_\_\_\_
4. Is the aircraft equipped and certified for flight into known icing conditions? \_\_\_\_\_\_
5. Unusable fuel with both tanks on is \_\_\_\_\_\_ gallons; with a single tank on it is \_\_\_\_\_ gallons per tank.

**( Your Company )**

**Flight Operations Handbook**

**Section XVII: Cessna Caravan C-208 Work Sheet Continued**

1. Maximum fuel imbalance is \_\_\_\_\_\_\_ pounds in-flight.
2. Certificated maximum operating altitude is \_\_\_\_\_ feet.
3. What are the maximum seating limitations in the current skydiving configurations?
4. What are the flap limitations for takeoff?
5. Where is the static source drain?

# **Emergency Procedures**

1. Airspeeds for engine failure after takeoff: Flaps up \_\_\_\_KIAS, Flaps down \_\_\_\_\_\_\_KIAS
2. What are the **Bold Face** procedures for the following emergencies?
* Engine Failure during takeoff roll. 1.

2.

* Engine failure immediately after takeoff. 1.
* Engine flameout during flight.

(compressor Ng > 50%) 1.

2.

* (compressor Ng < 50%) 1.
* Engine failure during flight. 1.

2.

3.

4.

* Engine fire in-flight 1.

2.

3.

4.

* Electrical fire in-flight. 1.

2.

3.

4.

5.

6.

* Engine fire on the ground. 1.

2.

3.

* Inadvertent icing encounter 1.

2.

3.

4.

 (To obtain an outside temperature less conductive to icing.)

* Loss of fuel pressure (amber light) 1.
* Fuel interruption to fuel reservoir 1.

(red light) 2.

 3.

1. If conditions exist, such as heavy precipitation or nearly empty fuel tanks, turn the . (also in turbulence)
2. When flying in icing conditions, propeller RPM should be set at RPM to minimize ice buildup.

**( Your Company )**

**Flight Operations Handbook**

**Section XVII: Cessna Caravan C-208 Work Sheet Continued**

1. If excessive vibration is noted in icing conditions, momentarily reduce propeller RPM to \_\_\_\_\_\_\_ with the proper control, then rapidly move the control \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Cycling the RPM flexes the blades and high RPM increases the centrifugal force causing ice to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. With an ice accumulation of ¼ inch or more on the wing leading edges, be prepared for significantly higher \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and a longer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Do not use more than \_\_\_\_\_\_ flaps with heavy ice accumulations on the horizontal stabilizer leading edge.
4. The alternate static source is connected to the \_\_\_\_\_\_\_\_\_\_\_ panel instruments only.
5. How would you determine that you had a fuel control unit failure in the pneumatic governor sections? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. The corrective action for #48 is

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Maintain 60% during flight)

1. What is the standby flap system caution? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If there are signs of fuel starvation prepare for
2. Maximum glide performance is achieved with the propeller \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. It is the responsibility of the \_\_\_\_\_\_\_\_\_\_ to ensure that the airplane is properly loaded within the weight and CG limits prior to takeoff.
4. Leaving the bleed air heat switch ON may result in a \_\_\_\_\_\_\_\_\_\_ or abnormal acceleration to idle.
5. It is especially important to verify that the emergency power level is in the \_\_\_\_\_\_ position during engine starts, explain \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. The propeller reversing linkage can be damaged if the power level is moved aft of the \_\_\_\_\_ position when the engine is not running and the propeller is feathered.
7. If no ITT rise is observed within seconds after moving the fuel condition lever to low idle position, or if the ITT rapidly approaches \_\_\_\_\_\_\_C, move the condition lever to cutoff and perform the engine clearing procedure.
8. The inertial separator control should be moved to the \_\_\_\_\_\_ position when flying through visible moisture with an OAT of \_\_\_\_\_\_ C or less.
9. The use of reverse thrust should be \_\_\_\_\_\_\_\_\_, especially on unprepared surfaces to protect the \_\_\_\_\_\_\_\_.
10. Prior to takeoff the fuel condition lever is moved to the \_\_\_\_\_\_\_\_ position and left in this position until after landing.
11. Normally, maximum climb power is maintained during the climb to altitude. Adjust the power to 1658 foot pounds of torque, maximum ITT of \_\_\_\_\_C, or maximum climb Ng of \_\_\_\_\_\_\_, whichever occurs first.
12. Ignition should be turned on when flying in \_\_\_\_\_\_\_\_\_\_\_\_. Also in areas of moderate turbulence.
13. Maximum demonstrated crosswind velocity is \_\_\_\_\_\_\_knots. Is this a limitation? \_\_\_\_ However use your best judgement in this area taking into consideration your experience and capabilities.
14. What is the maximum operation speed with the cargo door removed? KIAS
15. What is the minimum total fuel load to depart for a skydiving flight? total.
16. What is the maximum fuel load to be used for skydiving operations? total

**( Your Company )**

**Flight Operations Handbook**

**Section XVII: Cessna Caravan C-208 Work Sheet Continued**

# **Weight and balance**

Complete a weight and balance worksheet for the following conditions

**Takeoff:**

-90 degrees Fahrenheit

-16 Skydivers at 180 Lbs. each

-Pilot (175 Lbs.) and front passenger (Skydiver) at fuselage Station 140

-3 Skydivers at F.S. 160 -1 Skydiver at F.S. 230

-2 Skydivers at F.S. 170 -1 Skydiver at F.S. 234

-2 Skydivers at F.S. 190 -2 Skydivers at F.S. 260

-2 Skydivers at F.S. 205 -2 Skydivers at F.S. 296

67. Max Fuel allowed with this load?

68. Give ramp weight \_\_\_\_\_\_\_\_\_pounds and moment \_\_\_\_\_\_\_\_\_

Less start fuel ect. –35.00 -6.40

69. Give takeoff wt. \_\_\_\_\_\_\_\_\_Pounds and moment\_\_\_\_\_\_\_\_\_

1. Are the Center of Gravity and Moments within their respective envelopes? \_\_\_\_\_\_\_\_\_

71. Take off distance, over a 50-Ft. obstacle?

**Jump run:**

-Fuel after climb 134 pounds

-16 skydivers @ 180 pounds each

-All loaded the same and seated except the last six are now outside the door

-Floater #1 at F.S. 235 -Floater #4 at F.S. 271

-Floater #2 at F.S. 247 -Floater #5 at F.S. 280

-Floater #3 at F.S. 259 -Floater #6 at F.S. 296

72. Give weight \_\_\_\_\_\_\_pounds and moment \_\_\_\_\_\_\_\_\_\_\_

73. Are the Center of gravity and moments within their respective envelopes?\_\_\_\_\_\_\_\_\_\_

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:**

**Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Reviewed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_**

 **Instructor**

**COMMENTS:**

 **( Your Company )**

**Flight Operations Handbook**

**Section XVIII: Federal Aviation Regulations and Advisory Circulars**

**(As a minimum, you should have the following documents)**

 **-FAR Part 105**

 **-FAA Advisory Circulars 105-2A**

 **-FAA Advisory Circulars 90-66A**

**Section XIX: Fueling Operations**

**See Texaco Operations Manual in Flight Department Office.**

**For Hot fueling procedures see PIA Tech Std #122.**

**Section XX: Letters of Agreements, FAA Waivers**

 **This section is for storing and maintaining these items.**

**( Your Company )**

**Flight Operations Handbook**

**Section XXI: Forms Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

The following are a list of forms to be used by flight personnel to monitor aircraft maintenance and load status including fuel and oil. Pilot records for flight competency and proficiency checks and personnel files are also included.

* Pilot Records
* Deferred Maintenance Instruction Sheet
* Aircraft Status Sheet (Squawks & Maintenance Action)
* Currency Waivers
* Handbook Revision Control Sheet
* Pilot Status Sheet
* Flight Competency and Proficiency Checks

**Pilot Records:**

Create a file folder for each pilot to maintain records.

**Deferred Maintenance Instruction Sheet**

1. What to write up: What is a discrepancy?

 a. Anything that needs to be repaired.

 b. Anything that you would like to be fixed or changed.

 c. Any questions you have concerning operation of the aircraft or its systems.

2. How to write up an item:

 a. Clearly, completely, briefly.

 b. You **must put your name or initials, the time and date.**

3. When to write in this book:

a. At the end of the day if they are not critical items (This requires use of your own

 judgement). As pilot in command, you decide if the aircraft is grounded or not.

 b. At the time of the problem, immediately if it is a grounding item.

c. A conversation with the mechanic on duty will cover you for relating the details,

 but you must still write up the discrepancy and note with whom you spoke.

4. Where does the book belong?

 a. In the maintenance office, never in the aircraft.

5. Other times you must read this book:

 a. Before every preflight (pilot changes).

 b. At least once in the morning, for each aircraft in which you are qualified.

 (I.E. Cessna pilots need not read the King Air books etc).

6. What may be deferred, and who may defer items.

 a. Non-grounding items.

 b. Normally the mechanic will defer items when necessary. The pilots may do so if

 they know why it must be deferred. And it is not a grounding item.

 c. Any item that gets deferred must first be written up in the normal.

 The corrective action would then be listed as "see deferred list".

**REMEMBER:**

**IF YOU DO NOT WRITE IT DOWN IT WILL NEVER BE FIXED**

**( Your Company )Flight Operations Handbook**

**Section XXII: Forms Aircraft Status Sheet Revised: ( Date )**

**Effective Date : 11-15-99 Revision # \_\_\_\_\_**

# **N number: \_\_\_\_\_\_\_\_\_\_\_\_\_ 50 Hr. Due: \_\_\_\_\_\_\_\_\_\_\_\_ 100/200 Hr. Due: \_\_\_\_\_\_\_\_\_\_\_\_ Annual Due: \_\_\_\_\_\_\_\_\_**

######  **Turbine A/C**

# **Date Hobbs Pilot Starts\* Ldgs\* Squawks**

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###### **Date Hobbs Name Maintenance Action**

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**( Your Company )Flight Operations Handbook**

**Section XXII: Forms CURRENCY WAIVER Revised: ( Date )**

**Effective Date : \_\_\_\_\_\_ Revision #\_\_\_\_\_**

| **( Your Company )****Currency Waiver** | **Date:** |
| --- | --- |
| **Pilot's Name:** | **Cert. #:** |
| **Medical Type:** | **Medical Date:** |
| **Remarks:** | **Authorized Signature:** |

**( Your Company )Flight Operations Handbook**

**Section XXII: Forms Handbook Revision Control Sheet Revised: ( Date )**

**Effective Date : \_\_\_\_\_\_ Revision #\_\_\_\_\_**

**Hand**

**Book # Assigned to 1 2 3 4 5 6 7 8 9 10**

| **1** |  |  |  |  |  |  |  |  |  |  |  |
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**( Your Company )**

**Flight Operations Handbook**

**Section XXII: Forms PILOT STATUS SHEET Revised: (date)**

**Effective: (date) Revision #:\_\_\_**

| **Pilot** | **Aircraft****Assignment** | **Certificate****Type and****Numbers** | **Medical****Class/Due****Date** | **Bi-annual****Due****Date** | **Proficiency****Demonstrated** | **Proficiency****Demonstration****Due** |
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**( Your Company )**

**Flight Operations Handbook**

**Section XXII: Forms FLIGHT COMPETENCY AND PROFICIENCY CHECKS**

**Effective: (date) Revised: (date)**

**Revision #:\_\_\_**

**Pilot’s Name: Type of Check:( )Initial ( )Recurrent**

**Pilot’s Certificate #: Date of Check:**

**Pilot’s Certificate Grade: Aircraft (Make & Model):**

**Date of Birth: N Number:**

**Medical Class: Flight Time:**

**Date of Issue: Check Airman:**

**Flight Maneuvers & Grade (S-Satisfactory U-Unsatisfactory)**

| **FLIGHT PERFORMANCE** | **S** | **U** |
| --- | --- | --- |
|  |  |  |
| **A. PREFLIGHT OPERATIONS** |  |  |
| **1. A/C (Oral or Written)** |  |  |
| **2. A/C Documents** |  |  |
| **3. Company Paperwork** |  |  |
| **4. Preflight Inspection** |  |  |
| **5. Fueling procedures** |  |  |
| **6 Starting Procedures** |  |  |
| **7. Taxing techniques** |  |  |
| **8. Pre-Takeoff checks** |  |  |
|  |  |  |
| **B. TAKEOFFS** |  |  |
| **9. Normal** |  |  |
| **10. Rejected** |  |  |
| **11. Crosswind** |  |  |
| **12. Simulated Engine Failure** |  |  |
|  |  |  |
| **C. AIR WORK** |  |  |
| **13. Climbs/ Descents/ Turns** |  |  |
| **14. Slow Flight** |  |  |
| **15. Approach to Stalls** |  |  |
| **16. Steep Turns** |  |  |
| **17. Power Settings** |  |  |
| **18. Fuel Management** |  |  |
| **FLIGHT PERFORMANCE** | **S** | **U** |
|  |  |  |
| **D. NAVIGATION** |  |  |
| **19. Use of Nav/Com Radios** |  |  |
| **20. Area Departure/ Arrivals** |  |  |
| **21. Flight Profiles** |  |  |
| **22. Jump Runs** |  |  |
|  |  |  |
| **E. EMERGENCIES** |  |  |
| **23. Engine Failure** |  |  |
| **24. Systems & Equipment Mals.** |  |  |
| **25. Emergency Landings** |  |  |
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| **F. LANDINGS** |  |  |
| **26. Normal** |  |  |
| **27. Go-Around** |  |  |
| **28. Crosswind** |  |  |
| **29. Simulated Power Failure** |  |  |
| **30. Zero Flaps** |  |  |
|  |  |  |
| **G. GENERAL** |  |  |
| **31. Attitude** |  |  |
| **32. Judgement** |  |  |
| **33. Crew Co-ordination** |  |  |
| **34. Use of Checklist** |  |  |

**Results of Check: ( ) Approved ( ) Disapproved**

**Remarks:**

**Check Airman’s Signature: Date:**