STANDARD OPERATING PROCEDURE

CESSNA C208 SERIES

G1000

Rev. No.: 00

AUGUST 2022

PT. Smart Cakrawala Aviation

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DEFINITIONS AND ABREVIATIONS

AAE	Above Aerodrome Elevation
ADASd	Trend Monitor for the G1000
ADC	Air Data Computer
ADF	Automatic Direction Finder
AFCS	Autopilot Flight Control System
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AHRS	Attitude Heading Reference System
AP	Autopilot
APR	Approach mode on autopilot
ATC	Air Traffic Control
BRG	Bearing (selectable needles for NAV 1, NAV 2 GPS or none
CANPA	Constant Angle Non-Precision Approach (also referred to as CDFA – Constant Descent Final Approach)
CAS	Crew Alerting System
CASRs	Civil Aviation Safety Regulations
Cat	Aircraft Approach Category
CB's	Cumulonimbus Clouds
CFIT	Controlled Flight into Terrain
CDI	Course Deviation Indicator
CRG	G1000 Cockpit Reference Guide
CUM	Cumulative Distance G1000
DA	Decision Altitude
DTK	Desired Track
EIS	Engine Indicating System
ELT	Emergency Locater Transmitter
ETA	Estimated Time of Arrival
ETE	Estimated Time Enroute
FAF	Final Approach Fix
FD	Flight Director
FO	First Officer
FPM	Feet per Minute (climb- and descent rate)

GP	Glideslope angle
GPU	Ground Power Unit
GCU	Generator Control Unit
GPS	Global Positioning System
GS	Ground Speed
IAF	Intermediate Approach Fix
IAS	Indicated Air Speed
ILS	Instrument Landing System
ITT	Inter Turbine Temperature
KIAS	Knots Indicated Air Speed

LLWAS	Low Level Windshear Alert System
MAP	Missed Approach Point
MDA	Minimum Descent Altitude
MFD	Multi Function Display
MORA	Minimum Off Route
Altitude MSA	Minimum Safe Altitude
MSL	Mean Sea Level
NAV1	Navigation Radio number 1
NAV2	Navigation Radio number 2
NDB	Non-Directional Beacon
NG	Compressor RPM (in percent of maximum)
OBS	Setting of GPS course line to follow the CDI direction on NAV1 or NAV2
OFP	Operational Flight Plan
PA	Passenger Address
PANS OPS	Procedures for Air Navigation Services - Aircraft Operations - rules for designing instrument approach and departure procedures.
PF	Pilot Flying
PFD	Primary Flight Display
PM	Pilot Monitoring
POB	Persons on Board
PPH	Pounds per Hour (Fuel consumption)
PROC	Procedure key on Garmin 1000
QNH	Altimeter setting to indicate height above mean sea level
RAIM	Receiver Autonomous Integrity Monitoring
ROD	Rate of Descent
RPM	Revolutions Per Minute
SID	Standard Instrument Departure
STAR	Standard Terminal Arrival
TAS	Traffic Awareness System
TAWS	Terrain Awareness Warning System
TKE	Track Angle Error
TOPO	Topographic Display (map mode)
TRK	Track
VDP	Visual Descent Point

VNAV	Vertical Navigation
VOR	Omni Directional Beacon
V/S	Vertical Speed
VSR	Vertical Speed Required
WATCH®	Weather Attenuated Color Highlighting
WPT	Waypoint
XFR	Transfer key to switch control of FD (AHRS, ADC, Navaid selection) XTK Cross Track Error

1 Preface

This Standard Operating Procedures Manual for the Cessna C208B G1000 has been compiled to provide information and instruction to all flight crew on the manner in which their duties are executed when flying the C208B G1000. All flight and ground operations personnel shall follow the procedures contained in this manual in the performance of their duties in accordance with Civil Aviation Safety Regulations.

The instructions, policies and procedures contained in this manual are in accordance with the laws and regulations of Indonesia. They are intended to supplement, not replace existing regulations. For flights within Indonesia, the regulations contained in this manual take precedence over any other regulations and CASRs, provided the manual is approved by the DGAC.

For operations outside of Indonesia, the laws of the body having legislative authority over aviation matters where the aircraft is being operated will take precedence.

The C208B G1000 is flown by the Company with a 2-pilot crew and all procedures are designed and optimized to be carried out by 2 crew members working together effectively.

This manual, or applicable parts thereof, will be distributed to all personnel concerned with the conduct of flight operations. All holders of this manual will be responsible for its safe custody. All relevant personnel have to keep their manual current and they have to be aware that deviation of these procedures are sanctioned by applicable company warning and further more by applicable laws and regulations, therefore adherence to this manual is mandatory.

Any reference made in this manual to the Air Carrier, the Company, and / or the Air Operator, shall be taken to mean PT. Smart Cakrawala Aviation.
August 2022.

Keeping in line with the Pilot Operating Handbook, the following terms will be used:

NOTE

An operating procedure, technique, or maintenance practice which is considered essential to emphasize.

CAUTION

An operating procedure, technique, or maintenance practice which may result in damage to equipment if not carefully followed.

WARNING

An operating procedure, technique, or maintenance practice which may result in personal injury or loss of life if not carefully followed.

DIFFERENCE NOTE FOR MOUNTAIN OPERATIONS

To highlight areas where mountain procedures may differ from normal procedures.

2. Limitations

2.1 Aircraft Limitations

Unless specifically mentioned in these SOPs the aircraft limitations apply as per the C208B G1000 POH Revision 4.

2.2 Company Specific Limitations

Company Specific limitations have been created to extend the life of the engine and other aircraft components, and ensure safe operating procedures. Company limitations are void for Performance limiting, Non-Normal, or Emergency situations requiring flight up to the POH limitations.

2.3 Engine Power Settings

Takeoff:
Maximum 1.800 Foot-Pounds torque (not exceeding 805 degrees ITT) on all runways at least 50% longer than distance required for takeoff roll and clear a 50 feet obstacle.
Maximum 1.900 Foot-Pounds torque (not exceeding 850 degrees ITT) on all other runways.

Climb:
After setting the inertial separator to NORMAL, maximum 1.865 Foot-Pounds at 1.900 RPM or maximum 1.950 Foot-Pounds at 1.750 RPM, refer to the standard settings as per POH Rev 4 (summarized below) with standard temperatures in Indonesia.

Standard climb settings as per POH Rev 4 with standard temperatures in Indonesia.

Notes:

1. Only valid within 5 °C of listed temperature. If the temperature is outside 5 °C from the listed temperature, refer to figure 2-1 maximum climb torque.
2. All settings are for 1.850 RPM; for 1.750 RPM*, set torque 75 Foot- Pounds higher.
   *1750 RPM is for reduced noise with VIP's.
3. Climb ITT shall not exceed 740 degrees.

2.000 ft	25°C	1.800 ft/lbs	3.000 ft	23°C	1.800 ft/lbs
4.000 ft	22°C	1.740 ft/lbs	5.000 ft	20°C	1.700 ft/lbs
6.000 ft	18°C	1.670 ft/lbs	7.000 ft	15°C	1.630 ft/lbs
8.000 ft	14°C	1.610 ft/lbs	9.000 ft	12°C	1.580 ft/lbs
10.000 ft	10°C	1.530ft/lbs	11.000 ft	09°C	1.450 ft/lbs
12.000 ft	08°C	1.410ft/lbs			

NOTE

1. Torque on this chart shall be achieved without exceeding 765°C ITT or 101.6 percent N_g.
2. With the inertial separator in BYPASS, decrease torque setting by 100 Ft-Lbs.
3. With the cabin heater ON, decrease torque setting by 80 Ft-Lbs.

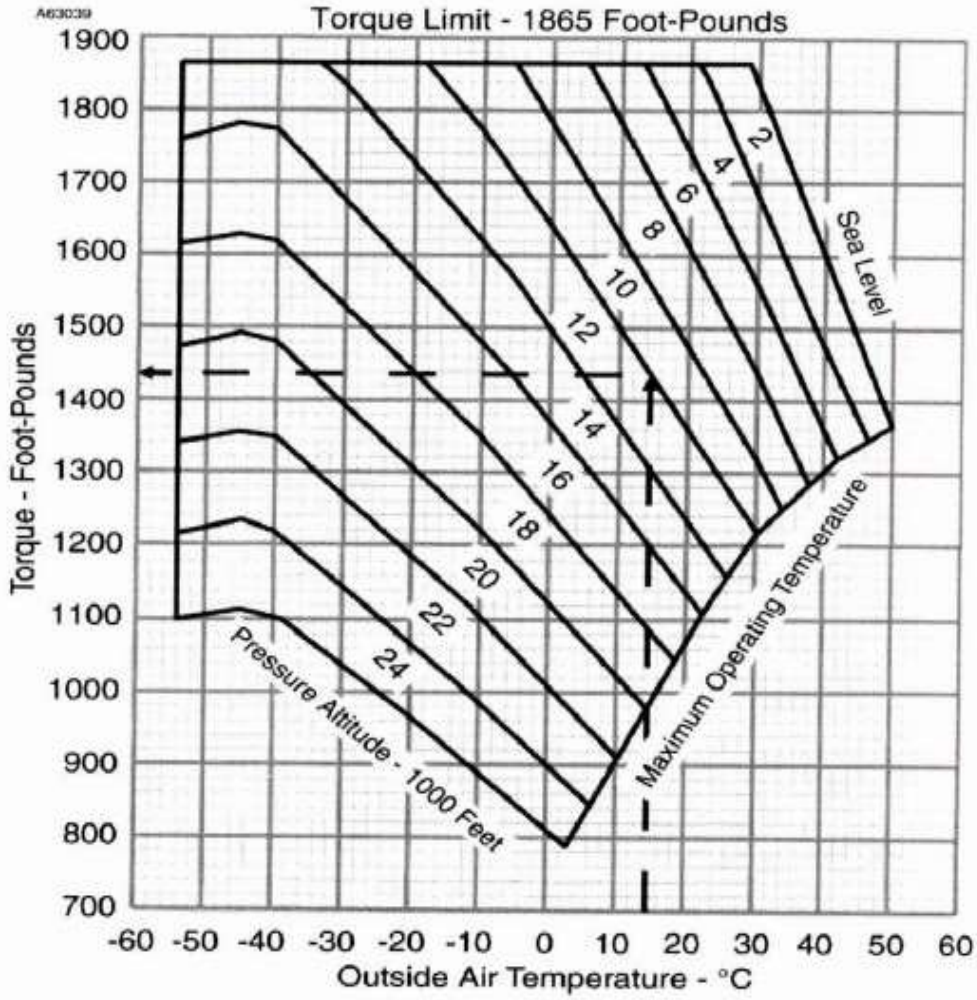


Figure 2-1: Maximum Climb Torque

Cruise:
Conservative cruise torque settings shall be used at all times. The “middle” settings as per the AFM Cruise torque settings are preferred.
Max Cruise torque shall only be used when the aircraft is behind schedule or there is a strong headwind.

Cruise propeller RPM settings are as follows:

Regularflights:	1750 RPM
Flights with VIP passengers on board:	1600 RPM

Maximum cruise ITT shall be 700 degrees. If the maximum cruise settings as per the AFM would cause ITT to be exceeding 700 degrees, maintenance must be notified.

Descent:
Throughout descent the power lever shall be left at the cruise power setting, until within 5 knots of the maximum speed or the speed trend vector exceeds 175 KIAS or less to prevent an overspeed. If the aircraft encounters moderate or stronger turbulence the aircraft shall be flown at or below the maneuvering speed appropriate for the weight.

2.4 GFC 700 Automatic Flight Control System (AFCS)

Climb:
Autopilot is not to be used in VS mode during climb. The only acceptable modes are Pitch and Flight Level Change. Flight Level Change is the preferred mode once the flaps have been retracted.
There is no need to use VS for a smooth level off as the ALT capture logic allows for high rates of climb and descent.
Flap Extension:
Flaps are to be extended and retracted in increments of 10° while the AP is engaged.
Minimum Engagement Altitude:
The autopilot is not to be engaged until the flaps are retracted after takeoff at a minimum of 400 feet.
The Autopilot must be disengaged below MDA, and DA respectively. For visual approaches the AP must be disengaged below 800 ft AGL.

Low Bank should not be used in an ATC controlled environment. ATC expects Rate 1 turns when you are being radar vectored and the low bank will only give you rate 1 up to 80 knots airspeed (15 degrees).

Descent: The YD shall be disengaged once commencing descent and any yaw manuallytrimmedoutbeforereengagingtheYD.ThisistoextendYDservolife.

2.5 Flap System

Flap Extension shall be limited to the following speeds:

Flaps 10	135KIAS	Flaps 20	85KIAS
Flaps 20	125KIAS	Flaps Full	95KIAS
Flaps Full	100KIAS		

2.6 Fuel Planning

VFR ..... Fuel to destination +400lbs
IFRwithalternate..... Fuel to destination + fuel to alternate+ 300lbs*
IFRwithnoalternate ..... Fuel to destination +600lbs

Notes:

1. *When there is a good chance of having to divert (i.e. weather below non precision minima or no weather forecast available) fuel should be loaded to land with no less than 400lbs at the alternate.
2. The above are minimum fuel requirements and must be applied with discretion.
3. All flights arriving within 30 minutes of official night must carry IFR fuel.
4. Once the aircraft has dispatched the fuel may be used @ the discretion of the PIC. I.e. The PIC may elect to use alternate fuel to hold at destination if it is obvious the airport will be available for landing in a safe amount of time.

2.7 Icing Conditions

WARNING

Smart Aviation Caravans are NOT authorized to operate in icing conditions.
Icing conditions are defined as:
Visible moisture: clouds, rain, snow, ice crystals with an OAT of 5°C or less. This

temperature is likely to occur at flight altitudes approaching 14 000 ft in Indonesia

3. Introduction & General

3.1 Method and Use of Checklists

At all times the PM shall read the checklist on request from the PF, except the "Before Start" and "Shutdown." The Before Start and Shutdown checklists shall be completed independently by the Captain.

Prior to the formal completion of the checklist, the actions shall have already been carried out during the execution of the scan/flow. Use of the checklist is mandatory for all operations.

3.2 Operating the Checklist

At the appropriate time the PF / shall call for the checklist by name. The only exception to this is the first flight of the day when the Captain shall be PF during the "First Flight of Day" checks because certain checks must be done from the Captain's side of the aircraft. Once the first flight of the day checklist is complete the First Officer may then become the PF again. The checklist shall then be carried out as follows:

- The challenge shall be called aloud by the PM.
- The PF / PM shall check that the item has been carried out and give the prescribed response.
- The only exception to the normal challenge response is the Climb Checklist which is to be completed silently by the PM.
- As far as practicable, the Pilot not required to respond shall also check that the required action has taken place.
- Where the checklist response is nominated as "Set" or "As Required", the response shall be appropriate to the situation. Responding "As Required" is an inappropriate response.
- Strict adherence to the checklist is required at all times, and the checklist must not be read past an item until it is complete in both action and response. The finals checks are the only ones which are completed without direct reference to the checklist (memory items).
- Checklists cannot be held at a particular point if interrupted. The checklist must be started again from the beginning to ensure nothing has been missed.

3.3 Crew Conduct and Sterile Environment

No flight crewmember may engage in any activity which would distract any flight crewmember from the performance of his/her duties or which could interfere in any way with the conduct of those duties.

Activities such as eating meals, paperwork and engaging in non-essential conversations during critical phases of flight are not permitted. Both pilots should be “heads up.” Critical Phases of Flight include all ground operations, taxi, takeoff, landing, flight conducted below 5.000 feet above aerodrome elevation and the last 1.000 feet prior to assigned or chosen level.

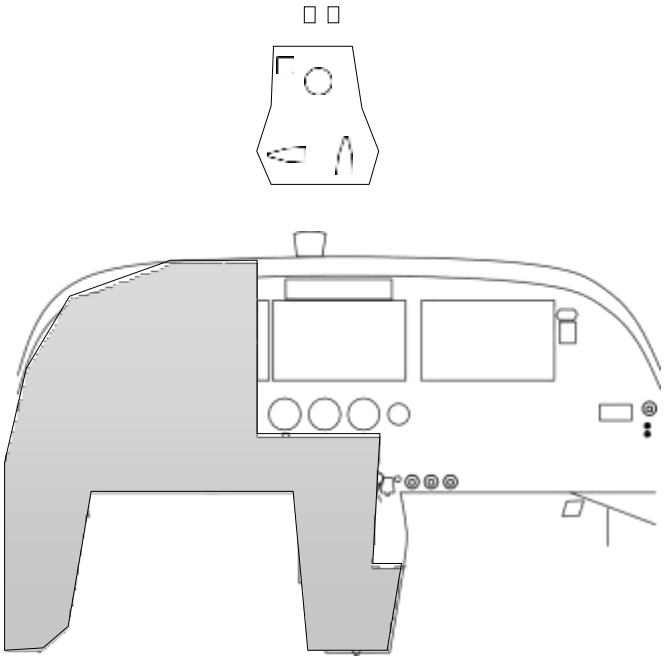
Flight crews are not to read publications not related to the proper conduct of the flight.

3.4 Division of Workload

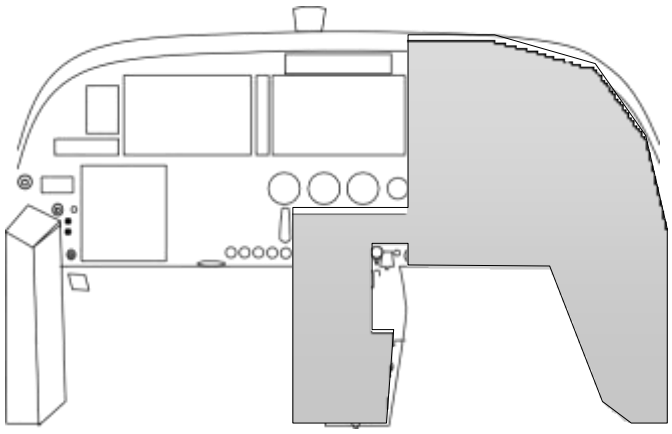
Any particular item in the cockpit shall generally be operated by the same crew member throughout a flight as laid out in the division of workload diagrams. Exceptions to this are:
The Power lever is to be operated by the PM from 1500 ft/lbs to takeoff torque, throughout the climb until the setting of cruise power is completed.
The Prop lever is to be operated by the PM when „climb power and „cruise power “are called for.
The AFCS mode selector panel is to be controlled by the PF when the autopilot is engaged and by the PM when the Autopilot is not engaged.
Engine Instruments must continuously be monitored by both pilots.

Figure 3-1 Area of responsibility

Captain PF in grey / FO PM unshaded



First Officer PF in grey / Captain PM unshaded



NOTE

In low workload environments i.e. (cruise with the autopilot engaged) it is acceptable for the PF to make selections with the avionics.
For example: using the weather radar to better interpret the weather, route modifications, etc. This however must not be at the expense of monitoring the flight path.

3.5 Crew Responsibilities

Refer to the Company Operations Manual Section 9

3.6 Checklist Format

Checklists are presented in three formats as follows:

- Preflight internal and external checks are designed to be carried out by one crewmember working independently. The Before Start and Shutdown Checklists are to be carried out by the Captain independently. The After Takeoff Checklist is to be carried out by the PM as CHALLENGE/ RESPONSE silently.
- The flight checklist is presented in a CHALLENGE/RESPONSE format for coordinating crew checks. Designation of the crewmember who is to respond is inserted in the response column as:

1. Captain C
2. First Officer.....FO
3. Both ..... B
4. Pilot Flying.....PF
5. Pilot Monitoring.....PM

Where both (B) crewmembers are to respond, the PF shall respond first followed by the PM.

3.7 Flow Introduction

This term is used to describe crew action sequences which shall be carried out at prescribed stages of the operation. Flows are a logical way of completing tasks BEFORE the respective checklist is called for, thereby allowing the checklist to serve as a backup. Each phase of flight has a flow shown. Flows may vary from those shown as long as they are logical, and carried out in a consistent manner commensurate with safety.

3.8 GPS Unit Setup

All GPS unit setups throughout Smart Aviation Operations need to be standardized to provide for maximum contribution to safety. All these GPS units in the planes will be used by different crews flying the aircraft on a daily basis and it is important that all information required is found at the expected location.

Under no circumstances may these settings be changed by individual crews to fit their personal preferences. If anyone has suggestions for a better setup this must be submitted to the Chief Pilot for consideration before any changes are made to all aircraft.

GPS UNIT SETUP	
(AUX PG 4)	
DATE/ TIME	UTC
DISPLAY UNITS	
NAV ANGLE	MAGNETIC
DISTANCE AND SPEED	NAUTICAL
ALTITUDE AND VERTICAL SPEED	FEET
BAROMETRIC PRESSURE	HECTOPASCALS

TEMPERATURE	CELSIUS
FUEL AND FUEL FLOW	POUNDS
WEIGHT	POUNDS
POSITION	HDDD°MM.MM',HDDD°MM'SS.S
BARO TRANSITION ALERT	OFF
AIRSPACE ALERTS	
ALTITUDE	200 (default)
ALL OTHERS	OFF
AUDIO ALERT	FEMALE
MFD DATA BARFIELDS	
FIELD 1	DTK
FIELD 2	TRK
FIELD 3	DIS
FIELD 4	GS
GPS CDI	AUTO*Note certain company procedures may require manual selection of CDI sensitivity
COM CONFIGURATION	
CHANNEL SPACING	25kHz
NEAREST AIRPORTS	HARD SOFT - 0 FEET(default)
SYNCHRONIZATION	
CDI	OFF
BARO	OFF

AUX UTILITY PAGE (PG 2)		
TIMER STARTING CRITERION	IN AIR	
MAP SETUP		
Navigation map page –MENU		
OVERLAYS - TRAFFIC, TOPO, TERRAIN and AIRWY	ON	
MAP ORIENTATION	HDG UP	
AUTO ZOOM MAX LOOK FWD MIN LOOK FWD TIME OUT	OFF	 30 min 5 min 0 min
LAND DATA	ON	

TRACK VECTOR	ON	
WIND VECTOR	ON	2 MIN
NAV RANGE RING	ON	
TOPO DATA	ON	1500NM
TOPO SCALE	OFF	
TERRAIN DATA	ON	2000NM
OBSTACLE DATA	ON	30NM
FUEL RNG (RSV)	ON	01:00
TRAFFIC		
TRAFFIC	ON	
TRAFFIC MODE	ALL TRAFFIC	
TRAFFIC SMBL		150NM
TRAFFIC LBL		50NM
AVIATION		
ACTIVE FPL		2000NM
ACTIVE FPL WPT	MED	2000NM
LARGE APT	LRG	500NM
MEDIUM APT	MED	300NM
SMALL APT	MED	100NM
SAFE TAXI	NA	3NM
RWY EXTENSION		30NM
INT WAYPOINT	LRG	30NM
NDB WAYPOINT	MED	30NM
VOR WAYPOINT	MED	150NM
CLASS B / TMA		200NM
CLASS C / TMA		200NM
CLASS D		150NM
RESTRICTED		200NM
MOA (MILITARY)		200NM
OTHER / ADIZ		50NM

AIRWAY		
AIRWAYS	ALL	
LOW ALT AIRWAY		200NM
HI ALT AIRWAY		300NM
LAND		
LAT / LON	SMALL	OFF
FREEWAY		300NM
NATIONAL HWY		80NM
LOCAL HWY		30NM
LOCAL ROAD		15NM
RAILROAD		30NM
LARGE CITY	SMALL	800NM
MEDIUM CITY	MED	100NM
SMALL CITY	MED	50NM
STATE / PROV	MED	1500NM
RIVER / LAKE	SMALL	200NM
USER WAYPOINT	LRG	150NM
NOTE: The DCLTR can be used to remove unnecessary data as desired from the MFD		
PFD SETUP		
PFD SOFTKEYS		
V SPEEDS	OFF (TMR REF-MENU- ALL REFS OFF)	
HSI	360	
NOTE: When the Arc HSI is displayed, the Bearing Information windows and pointers are disabled.		
BEARING POINTERS	AS REQUIRED	
DME	AS REQUIRED	
CDI	AS REQUIRED	
WIND DATA	AS REQUIRED	
NOTE: Using wind option 1 during the finals checks will allow for a direct reading of the headwind/ x windcomponent.		

3.9 Lights

Beacon light switch shall remain on at all times, even when the aircraft is shutdown.

Cabin lights shall be on for boarding and disembarking passengers at night as well as the underwing courtesy lights. They shall be extinguished during taxi, takeoff, approach, and landing to allow for the pilots eyes to adjust.

Landing lights should be used for all takeoff and landing operations at night, approaches to unattended airports or such with known crowd control problems, and when there is a TCAS warning.

NOTE

It is not recommended that the landing lights be used to enhance the conspicuity of the airplane in the traffic pattern or enroute, because of their relatively short service life. The taxi/ recognition lights have considerably longer service life and are designed for this purpose, if desired.

Nav lights should be used for all operations at night.

WARNING

IF A NIGHT FLIGHT IS PLANNED, CHECK OPERATION OF ALL LIGHTS, AND MAKE SURE A FLASHLIGHT IS AVAILABLE AND PROPERLY STOWED.

Recognition (Taxi) lights shall be used when taxiing and remain on until a minimum of 2000 feet above field elevation has been reached. Landing lights shall also be extinguished when above 2000' or clear of traffic for night operations.
On descent they should be turned on a minimum of 15 miles from landing facility or below 2000 feet whichever occurs first. In case of possible traffic conflict, the recognition lights shall be switched on until traffic is clear.
Strobe Lights shall be turned on:

- When taxiing onto the active runway at controlled airfields

- Any time the engine is running at remote or uncontrolled airfields Strobe lights shall be turned off:
- When exiting the runway at a controlled airfield.
- After engine shutdown at remote or uncontrolled airfields.

NOTE

At unattended fields with crowd control problems, it is acceptable to use the strobe lights at any time to increase the conspicuity of the aircraft including just prior to engine start.

WARNING

STROBE AND ANTI COLLISION LIGHTS MAY CAUSE DISORIENTATION OR VERTIGO IF NOT TURNED OFF WHEN IN CLOUDS. ONCE LEAVING CLOUD TURN THEM BACK ON

3.10 MAP Displays

The map mode should be used to the maximum extent practicable. The map display provides a plan view of the approach, including final approach and missed approach routing. The map increases crew awareness of progress and position during departure and approaches.
The map is particularly useful when the inbound course does not align with the runway centerline and allows the pilot to clearly determine the type of alignment maneuver required.

3.11 Multi Function Display

The TFC shall be left in NORMAL mode at all times. This is especially useful to avoid a runway incursion on line up. The BLW, NORMAL, ABOVE, UNREST mode is at the discretion of the pilots.

3.12 Navaid Identification

All Navaids must be identified before use. It is acceptable to visually identify navaids.

If visual identification is not possible, aural identification is necessary.

3.13 Radar Altimeter

Smart Aviation G1000 Caravans are not equipped with Radar Altimeters.

3.14 Terrain Awareness

Although all Smart Aviation Caravan Aircraft are equipped withTAWS, it is essential crews are aware that this is a tool to increase situational awareness and NOT to be used for primary terrain avoidance. Awareness of minimum IFR altitudes and adherence to company procedures should prevent any warnings from occurring. If warnings do occur it is essential crew members act without hesitation (see section 10 for crew coordination and procedures).

WARNING

Do not use TAWS information for primary terrain avoidance. TAWS is intended only to enhance situational awareness

NOTE

The TAWS uses Geometric Altitude as its reference altitude (GPS calculated altitude). This reference altitude will often differ from cockpit displayed barometric altitude. Errors can be as great as 2500 ft at higher altitudes (above 10 000 ft).

It is essential crews are aware of the color coding in relation to terrain clearance. (see below)

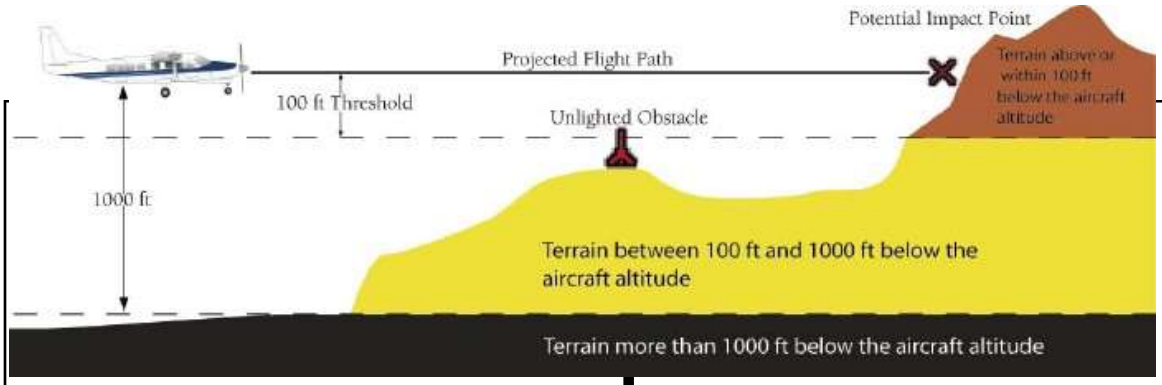


Figure 3-2 TAWS Legend

3.15 Weight and Balance

The pilot in command is responsible for ensuring that the aircraft is operated within the published weight and balance limits at all times. Refer to Appendix B for more guidance.

3.16 Normal Procedures Checklist (following page)

G1000 C-208B Normal Procedures Checklist

PREFLIGHT (C or FO)

1. POH and G1000 CRG--------ACCSBLE
2. Documents---------- ON BOARD
3. All switches----------OFF
4. One fuel selector ----------ON
5. Battery ----------ON
   (verify skin fans audible w/ airflow)
6. Avionics No. 1 Switch---------- On
7. PFD 1 ----------(verify PFD 1 ON)
8. Avionics No. 2 Switch----------ON
9. PFD 2 ---- (verify PFD 2 and MFD ON)
10. Fuel Quantity---------- CHECK and RST
11. Wing Flap Handle ----------FULL DOWN
12. Pitot Covers ---------- REMOVED
13. PIT/STAT STLL HT - ON 30 SEC-OFF
14. AV'S No. 1 and No. 2 Sw's
    OFF
15. BATTERY Switch
    OFF
16. CAB HT FWALL SHTFF Control--------IN
17. FUEL SHTFF Knob ----------IN
18. TRIM Controls
    SET
19. EMERG PWR LVR-----NORM (w/ wire)
20. Cabin Heat Selectors ----------ALL IN
21. BLEED AIR HEAT Switch
    OFF
22. TEMP Selector
    COLD
23. VENT FANS/AIR CON
    OFF

24. PARK BRAKE ---------- SET
25. INERT SEPT Handle ----------NORMAL
26. CNTRL Lock ---- RMV (diseng rdr lock)
27. ALT STATIC AIR---------- OFF
28. STATIC DRAIN---------- DRAIN-CLOSE
29. Circuit Breakers----------IN
30. FL TNK SEL VLV's----- BOTH ON -OFF
31. OXY SUP PRESS ----------CHECK
32. OXY ON/OFF Selector ---------- OFF
33. OXY MASKS ---------- CHECK AVAIL
34. STBY FLAP MTR Sw -----GRDD NORM

BEFORE START (C)

1. Battery ----------ON
2. Avionics 1 ----------ON
3. EIS----------No Red X's
4. Fuel Quantity----------REQ'D
5. Fuel Tank Selectors ----------Both On
6. Fuel Condition Lever---------- Cutoff
7. Power Lever ----------Idle
8. Emergency Power Lever --------- Normal
9. Inertial Separator---------- Normal
10. Switches----------Off
11. Park Brake ----------Set

BEFORE TAXI (C/R)

1. Fuel Boost----------C ----------Norm
2. CAS msg----------C---------- Cons
3. Taxi Light----------C ----------On
4. Wx Radar----------FO---------- Stby
5. Inertial Separator------C ---------- Bypass
6. Ng/ITT----------PF---------- In Limits

BEFORE FIRST FLIGHT (C/R)

1. Power Lvr 400 ft/lbs--C ---------- Set
2. Bus Volts----------C ---------- Checked
3. Inertial Separator------C --------- Checked
4. Overspeed Governor C --------Checked
5. Standby Power--------C--------- Checked
6. Man Elec Pit Trim----- B---------- Checked

TAXI (C/R)

1. Trims----------B ---------- Set
2. Flaps ----------B ---------- 20
3. TAWS ----------PF ---------- Set
4. Controls----------PF --------- Free & Corr
5. Instruments-------B ------Check and Set
6. Fuel Remaining-- PF ---------- Set

7. Navigation--------- PF ---------- _____
8. Takeoff Brief------PF ---------- Complete
9. Spider Test ------ FO ---------- Complete

G1000 C-208B Normal Procedures Checklist

LINE UP (C/R)

1. Ignition----------PF----------On
2. Heading----------B---------- Checked
3. XFR key.....PF.....Set
4. FD/Course /Alt --- PF Set
5. Air Cond.....PF.....Set
6. Condition Lvr----- PF ---------- High Idle
7. Prop.....PF ---------- .....Max
8. Fuel Sel's ---------- PF Both On

CLIMB (S)

1. Flaps ----------PM ----------Up
2. Inertial Sep --------PM ----------Normal
3. TAWS ----------PM----------Normal
4. Ignition----------PM ----------Normal
5. Lights ----------PM ----------Off

DESCENT (C/R)

1. Altimeters----------B ---------QNH_____Set
2. Apprch Briefing-- PF ---------- Complete
3. Nav/ VNAV--------PF ---------- Set
4. Minimums---------B ---------- _____Set

APPROACH (C/R)

1. FuelTanks----------PM ---------- Both On
2. TAWS----------PM ---------- Set
3. Lights----------C----------Set
4. Brakes----------B----------Check

FINALS (C/R)

Climb Power Settings		
2.000ft	25°C	1800ft/lbs
3.000ft	23°C	1800ft/lbs
4.000ft	22°C	1740ft/lbs
5.000ft	20°C	1700ft/lbs
6.000ft	18°C	1670ft/lbs
7.000ft	15°C	1630ft/lbs
8.000ft	14°C	1610ft/lbs
9.000ft	12°C	1580ft/lbs
10.000ft	10°C	1530ft/lbs
11.000ft	09°C	1450ft/lbs
12.000ft	08°C	1410ft/lbs
Cruise Normal - 1750RPM		
4000ft		1600ft/lbs
6000ft		1550ft/lbs
8000ft		1470ft/lbs
10000ft		1400ft/lbs
11000ft		1350ft/lbs
12000ft		1300ft.lbs
Cruise VIP - 1600RPM		
4000ft		1650ft/lbs
6000ft		1600ft/lbs
8000ft		1550ft/lbs
10000ft		1500ft/lbs
11000ft		1450ft/lbs
12000ft		1420ft/lbs

1. Flaps ---------- B ---------- 30/As Req'd
2. Prop ---------- PM ----------
Max
3. Inertial Sep --------PM ----------
---------- Bypass
4. Ignition ---------- PM ---------- On
5. ID ---------- PM ---------- Off
6. Airspeed / GS ---- PM ----------
---------- Read

CLEAR OF RUNWAY

1. XPDR----------PM---------- GND
2. WX Radar----------PM----------Stby

SHUTDOWN (C)

1. Parking Brake---------- Set
2. Flaps.....20 / UP 3. Standby Power -------Off
4. Avionics ---------- Off
5. Condition Lever---------- Cutoff
6. Air Conditioner ..... Off
7. Fuel Selectors ---------- Both Off
8. Inertial Separator---------- Normal
9. Battery Switch----------Off

4 Preflight

4.1 Crew Daily and Pre-flight Briefing

The intention of these briefings is to ensure that all crew members are aware of all pertinent factors which may affect the conduct of the flights. By discussing these factors early in the duty period and before flights, there is ample time to revise plans and straighten out misconceptions. This will enable each Takeoff Brief to be a concise statement rather than a discussion.

The daily briefing should cover a discussion of:

- Crew Introduction / Experience Level /Currency
- General flight schedule for the day
- General weather
- NOTAMS
- ASHTAMS
- Aircraft serviceability and readiness. (Check discrepancy page and MEL)

A particularly important item to be included in the daily briefing is the roles of the pilots during an emergency. The captain should decide and define if he will automatically take immediate control as PF in an emergency situation (if first officer lacks sufficient experience) or if first officer can continue as PF in such a case.

The pre-flight briefing should cover a discussion of:

- Flight plan, departure route, takeoff weight, flight route

- Weather.
- NOTAMS.
- Fuel requirements.
- Operational Flight Plan

4.2 Operational Flight Plan

Every flight conducted in accordance with Part 135 of the DGAC is required to have an operational flight plan. Refer to the following pages for a copy of and description of the OFP. An Excel OFP shall be made available to crews at all stations.

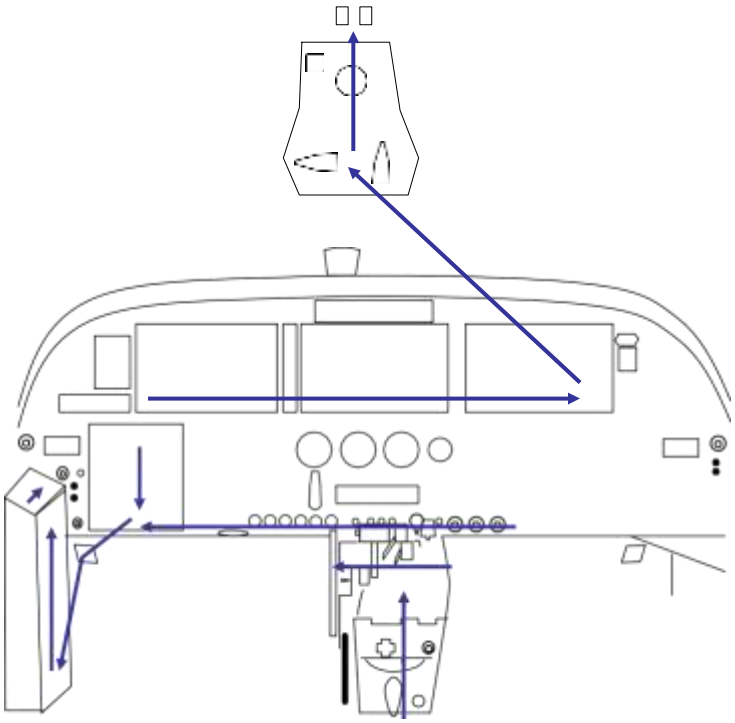
4.3 Aircraft Preparation

The aircraft is prepared by both pilots simultaneously. Preferably the PF on the first sector will do the cockpit inspection while the PM on the first sector will do the external walkaround. After each sector of the day a brief walkaround should be done to check for obvious signs of damage. At the end of each flying day an external inspection should be done prior to leaving the aircraft or signing off the logbook.

4.4 Cockpit/ Cabin Preparation

The pilot carrying out the cockpit preflight inspection shall carry out a flow of the cockpit as shown in the picture and detailed thereafter. The Preflight Checklist shall then be completed. Either crewmember may carry this out from the left seat. The cabin should then be inspected ensuring the seats are correctly positioned and secured, life vests and briefing cards are present, the seat belt/ no smoking signs are working and the aircraft is presentable to passengers

Figure 4-1Preflight Inspection Flow Diagram



4.5 Cockpit Preflight Inspection Flow Items

1. POH and G1000 CRG .....ACCESSIBLE TO PILOT
2. Documents..... ON BOARD
3. All switches .....OFF
4. One fuel selector.....ON
5. Battery ..... ON

(verify deck skin fans audible and airflow from each fan) 6.

Avionics No. 1 Switch ..... On

7. PFD 1 ..... CHECK (verify PFD 1 ON)
8. Avionics No. 2 Switch..... ON
9. PFD 2 .....CHECK (verify PFD 2 and MFD ON)
10. Fuel Quantity.....CHECK QUANTITY
11. ENGINE Softkey ..... SELECT SYSTEM
12. SYSTEM Softkey.....RST FUEL

13. ENGINE Softkey ..... SELECT (to return to main page)
14. Wing Flap Handle ..... FULL DOWN
15. Visually Ensure Pitot Covers ..... REMOVED
16. PITOT/STATIC and STALL HEAT Switches ..... ON FOR 30 SECONDS THEN OFF

17. AVIONICS No. 1 and No. 2 Switches ..... OFF
18. BATTERY Switch ..... OFF
19. CABIN HEAT FIREWALL SHUTOFF Control ..... CHECK IN
20. FUEL SHUTOFF Knob ..... IN
21. TRIM Controls ..... SET
22. EMERGENCY POWER LEVER ..... NORMAL (witness wire in place)
23. Cabin Heat Selectors ..... ALL IN
24. BLEED AIR HEAT Switch ..... OFF
25. TEMPERATURE Selector ..... COLD
26. VENTILATION FANS/AIR CONDITIONER ..... OFF
27. LIGHT SELECTORS ..... AS REQUIRED
28. PARK BRAKE ..... SET
29. INERTIAL SEPARATORT Handle ..... NORMAL
30. Control Lock ..... REMOVE (disengage rudder lock)
31. Lights ..... OFF (beacon light on, NAV lights on at night)
32. NO SMOKING/ SEATBELT Signs ..... ON
33. Anti Ice/ De Ice switches (if installed) ..... OFF
34. ALT STATIC AIR ..... OFF
35. STATIC DRAIN ..... DRAIN (ensure closed prior to flight)
36. Circuit Breakers ..... IN
37. FUEL TANK SELECTOR Valves ..... BOTH ON (feel against stops) then OFF
38. OXYGEN SUPPLY PRESSURE ..... CHECK
39. OXYGEN ON/ OFF Selector ..... OFF
40. OXYGEN MASKS ..... CHECK AVAILABLE
41. STANDBY FLAP MOTOR Switch ..... GUARDED NORM

4.6 Walkaround

The pilot carrying out the walkaround shall leave the left side of the cowling open. The pilot who carried out the interior inspection shall then ensure the oil cap had been properly secured and he/ she shall then close the cowling. Additionally the fuel cap must be checked on and properly secured by the pilot conducting the external walkaround by one of the two methods detailed below in “Fuelling.”

When the pilot conducting the external walkaround reaches the stall warning strip he/ she shall use the pitot cover to lift it while the other pilot in the cockpit turns the battery on and pulls the control column aft to test the stall warning system

4.7 Fuelling

General guidelines on fuelling procedures can be found in the Company Operations Manual. The following is to supplement those existing policies and procedures for the G1000 Caravan.

- If the crew is present when fuelling is taking place, they shall ensure they check the fuel cap security (preferably while the ladder is still present). If a ladder is not available; by standing in the captains doorway and grabbing the handle on the inside of the cabin above the door.
- Fuel dips shall be conducted on the first flight of the day and after every refueling. If fuel burn does not correspond to gage readings, a dip must be conducted (see gross error check).

4.7.1 Requests ForFuel

Requests for fuel shall be in written format and given to the ramp coordinator or fueller directly. Both pilots shall confirm the fuel load request before submitting when possible.

4.7.2 Gross Error Check

Every flight leg the crew must ensure the gage accurately reflects the correct amount of fuel on board. Any discrepancies beyond 100 lbs require a dip to be conducted.

For example: After fuelling, fuel dip conducted. Fuel quantity 1300 lbs. Flight conducted, calculated fuel burn 300 lbs. Landing fuel 850 lbs.
Discrepancy 150 lbs; therefore a dip must be conducted

When refueling, conduct a gross error check using the following formula. Total fuel after fuelling - arrival fuel = fuel uplift (lbs).
100 lbs = 60 liters (56.17)

Example:
Aircraft fuelled to 650 a side (1300 lbs) Fuel
on arrival 600 lbs.
Total uplift = 700lbs.
7 X 60 = 420 liters (approximately)
Fuel uplift receipt should indicate approximately 420 liters or match with the fuel you requested.

4.7.3 Fuel Draining

Fuel must be drained from ALL drain points after EVERY refueling and EVERY initial walkaround of the day. If contaminants are found, EVERY drain point must be drained until there is no evidence of contamination.
If ground crews are conducting fuel draining, it must be in the presence of one of the pilots to ensure:

1. All drain points have been checked
2. No contaminants exist

4.8 Aircraft Doors

The engine shall not be started with the co-pilot or any passenger or cargo doors open. Force should not be used in any attempt to close the doors. If a door shall not close under gentle pressure the cause must be investigated before subsequent attempts are made.

The lower half of the cargo door may not be open during boarding or disembarking of the passengers.

It is important to ensure all the doors are unlocked prior to flight.

4.9 Door Operation

When lowering the rear door, take the weight off the door and assist the function of the actuators by ensuring the door does not lower too rapidly. When closing the door, ensure the restraining cables are clear of door edges to prevent damage to the cables and door seal.

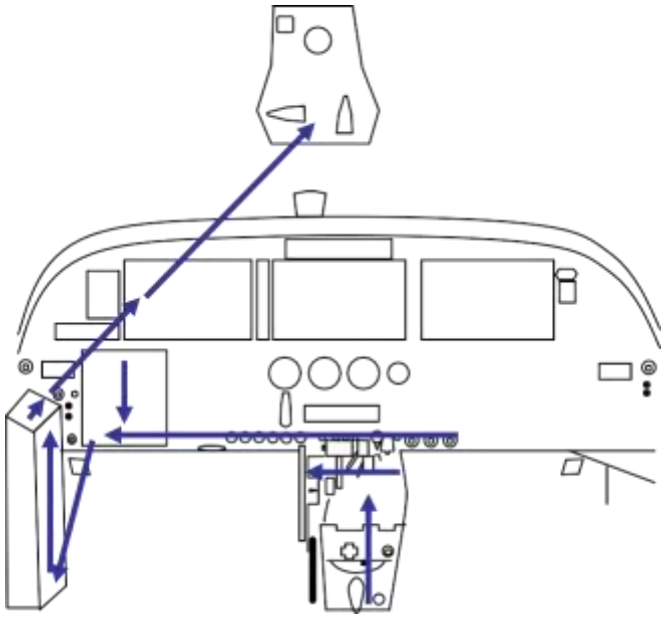
Prior to the doors being closed the First Officer shall ensure that all main entry and cargo doors are free from obstruction and the life raft is accessible. The First Officer is to ensure all doors including the cargo pod doors are closed prior to being seated even if ground crews are available. Before the engine is started the DOOR UNLATCHED CAS message must be extinguished to ensure the cabin doors have been properly closed.

4.10 Before Start

The Before Start Checks are normally carried out by the Captain without the First Officer being present. The aircraft propeller should be parked over a hardstand prior to engine start if possible to avoid propeller damage after engine start.

The engine should be started as soon as possible after boarding passengers to provide environmental control for passenger comfort.

Figure 4-2 Before Start Flow Diagram



4.11 Before Start Flow Items

1. CABIN HEAT FIREWALL SHUTOFF Control ..... CHECK IN
2. FUEL SHUTOFF Knob ..... IN
3. TRIM Controls ..... SET
4. FLAPS 20
5. FUEL CONDITION LEVER ..... CUTOFF
6. PROPELLER LEVER ..... FULL FORWARD
7. POWER LEVER ..... IDLE
8. EMERGENCY POWER LEVER ..... NORMAL (witness wire in place)
9. Cabin Heat Selectors ..... ALL IN
10. BLEED AIR HEAT Switch ..... OFF
11. TEMPERATURE Selector ..... COLD
12. VENTILATION FANS/AIR CONDITIONER ..... OFF
13. INERTIAL SEPARATORT Handle ..... NORMAL
14. PARK BRAKE ..... SET
15. Control Lock ..... REMOVE (disengage rudder lock)
16. Lights ..... OFF (beacon light on, NAV lights on at night)
17. NO SMOKING/ SEATBELT Signs ..... ON
18. Anti Ice/ De Ice switches (if installed) ..... OFF
19. ALT STATIC AIR ..... OFF

4.12 Before Start Checklist

BEFORE START (C)

Carried out independently by the Captain while the FO ensures all doors and pods are closed.

1. Battery ..... ON
2. Avionics 1 ---------- ON
3. EIS ---------- No Red X's
4. Fuel Quantity ---------- ___REQ'D____
5. Fuel Tank Selectors ---------- Both On
6. Fuel Condition Lever ---------- Cutoff
7. Power Lever ..... Idle
8. Emergency Power Lever ---------- Normal
9. Inertial Separator ---------- Normal
10. Switches ..... Off
11. Park Brake ..... Set

4.13 Engine Starting

Where possible, a GPU should be used to provide power for engine starting. The pilots are to ensure that it is properly connected. Pilots are to ensure the area around the propeller is clear before starting. The Captain shall call „clear left" to which the FO shall reply „clear right" or „standby". If the FO calls „standby", the start may not be accomplished and the FO shall then inform the captain of the reason. If possible a ground crew member or marshaller shall give a thumbs up or give the standard engine start signal before starting.

When practical, try to park the aircraft into the wind. Strong tailwinds during a ground start can create excessive propeller loads. In addition, tailwinds may cause the ingestion of exhaust gases causing higher start temperatures.

Starts should be aborted when:

The propeller fails to rotate.

% NG does not reach 12%.

No lightoff within 10 seconds of introducing fuel

ITT approaches 900 degrees and keeps moving up. No

oil pressure indication when passing 12% Ng.
GPU falls out
Any unusual noise or vibration occurs.
Engine instruments indicate abnormal conditions.
Ground Crew gives signal to abort start

4.14 Engine Starting Table

Engine Start Procedure (Battery)		
Action	Verify	
Both fuel selectors –ON		
Battery switch - ON		
Avionics No. 1 Switch – ON		
EIS – CHECK PARAMETERS	No red X's	
BUS VOLTS – CHECK	(24 V minimum)	
	"Clear left/ Clear right"	
Fuel Boost Switch – ON	1. FUEL BOOST ON CAS MSG - ON 2. FUEL PRESS LOW CAS MSG - OFF 3. FUEL FLOW PPH -ZERO	
Captain timer -START (to remain within starter cycle limits) Starter Switch – START (See #3 on starter panel flow)	1. STARTER ON and IGNITION ON CAS messges 2. Rotation of propeller 3. Positive indication of oilpressure 4. Ng stabilizes (min 12%)	

Fuel Condition Lever – Low Idle	Fuel flow in the general range of 90- 140 pph Lightoff within 10 seconds
Monitor ITT and Ng	Normal acceleration, NO HOT HUNG OR WET starts ITT remains below 900C (company limit)
	1. Engine stabilizes at idle (54% min) 2. STARTER ON CAS MSG OFF 3. Idle temp below (685C)

Engine Start Procedure (Ground Power)	
Action	Verify
Both fuel selectors –ON	
Auxiliary power Unit – ENGAGE; then ON	
External power switch - BUS	
AVIONICS No.1 –ON	No red X's
BUS VOLTS– CHECK	(24-28.5 V)
Battery switch – ON	
External power switch - STARTER	
BUS VOLTS – CHECK	(20 V minimum)

The remainder is the same as with a battery start

CAUTION

Monitor the STARTER ON CAS message because that will be the first indication of the GPU dropping off line followed by possible high ITT and a hung start prior to reaching 46% when it is automatically cut out by the GCU.

NOTE

With external power available, the fans and avionics can be left on.

NOTE

When starting using a battery pack, the starting time limitations with a battery apply.

NOTE

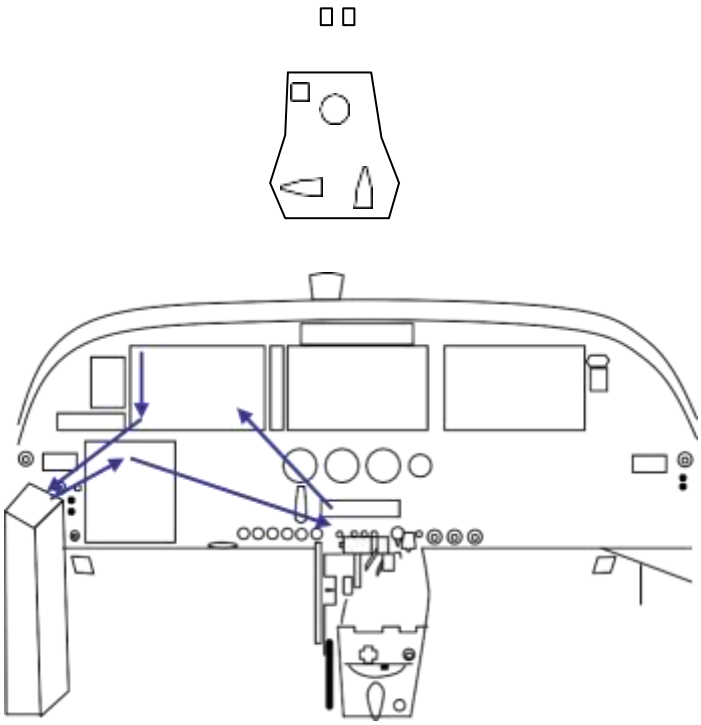
To attain 54% Ng for air conditioner use, the fuel condition lever may need to be moved slightly forward of the low idle stop

4.15 Inertial Separator Ground Operation

Inertial Separator will be set to Normal for engine start. Captain will immediately set to Bypass after the start is complete before reading any checklist. Inertial Separator will remain in Bypass for all ground operations until engine is shut down.

5 Departure

Figure 5-1Before Taxi Flow Diagram



5.1 Before Taxi Flow Items

Captain Flows:

1. Starter Switch ..... Off
2. EIS .....Check Normal
3. Generator.....Check Load
   (verify GENERATOR CAS MSG – OFF and BAT AMPS charging) 4.

Fuel Boost Switch..... Norm

5. External Power Switch..... Off

6. Standby Power Switch .....On
7. Avionics No.2 Sw .....On
8. Lights ..... Set
9. Inertial Separator ..... Bypass
10. Air Conditioning ..... On
11. CAS Messages ..... Clear (consid'd)

First Officer Flows:

1. MFD .....WX RadarSTBY
2. TOPO.....ON
3. TAS ..... ON
4. TERRAIN.....ON
5. FUEL TOTALIZER.....SET

5.2 Before Taxi Checklist

BEFORE TAXI (C/R)

Carried out after the engine has been started and the before taxi flows have been carried out.

1. Fuel Boost----------C----------Norm
2. CAS msg----------C ----------Cons
3. Taxi Light.....C.....On
4. Wx Radar----------FO Stby
5. Inertial Separator------C ---------- Bypass
6. Ng/ ITT----------PF ----------In Limits

5.3 Instrument Check

Due to the fact that the AHRS 2 receives power later, alignment may be delayed. The instrument check may be delayed until prior to takeoff. The taxi checklist may not be commenced until the Instrument Check is complete. Once AHRS alignment is complete, verify no messages* are present, altimeters cross- checked and headings set and cross-checked.

*refer to section 3 of the POH to resolve Comparator and Reversionary messages.

Instrument Check Callouts	
PF	PM
„QNH 1019 gives me 50 ft, 1019 50 ft on the standby, heading 130 compass 133 no flags, Comparator messages nil, Reversionary messages Both on GPS 1”	„Crosschecked“ or says differences. Eg. „1019 gives me 70 ft.“

NOTE

The only indication of a suction failure on the G1000 Caravan is the GYRO flag on the standby AI.

Both the C and FO PFD’s must be on independent AHRS and ADC’s prior to takeoff. Refer to page 3-65 and 3-66 of the POH for guidance on resolving these issues.

During taxi instruments should be checked during a turn *if possible* and the calls should be as follows.

Instrument Check Callouts	
PF	PM
“Wings level on horizon on PFD and the standby, ball right (left)  decreasing (increasing)(DG) decreasing free and floating (compass)	“Cross checked” or variations as appropriate.

5.4 Taxiing

The PF is to taxi theaircraft.

When ready to taxi, ensure that the Parking Brake is released. As the aircraft begins to move forward, test the brakes by pressing each brake pedal and checking travel, feel the performance. PF shall call “Brake Check“, the PM shall test the brakes not bringing the aircraft to a stop but just checking stopping ability followed by the PF.

Taxi at a moderate speed and avoid making sharp turns, as this will put unnecessary side loads on the undercarriage. Taxi speeds shall be moderate. The GS on the GPS can be used as a reference. Turning speed shall not exceed 10 knots. Taxi speed on long straight taxiways or runways shall not compromise controllability of the aircraft, not to exceed 30 knots. When maneuvering to park or in the vicinity of obstacles, limit speed to below 5 knots. Use of Beta will greatly reduce the need for braking and extend brake life.

CAUTION

Using Reverse Power to back the aircraft up is strictly prohibited.

NOTE

Due to the design of the braking system, it is more difficult to taxi from the right seat due to brake effectiveness. In tight areas it is recommended the Captain taxi.

5.5 Operations on Unsealed Surfaces

Taxiing is to be done with minimal power to minimize propeller damage. Parking the aircraft with the nose wheel straight or straightening with tow bar prior to taxi also minimizes power required. The aircraft should be kept moving unless it is absolutely necessary to stop. Turns of 180 degrees should be made into the wind if practicable.

Rolling takeoff’s are to be used unless necessary for performance considerations.

5.6 Reserved

5.7 Use of Radios

Radio calls and PA's shall be made by the PM.
Com 1 shall be used for all normal communications.
Com 2 shall be used for gathering ATIS information, talking to company, and when talking to two ATC facilities simultaneously. All other times it shall be used to monitor 121.5.

- To listen for ELTbroadcasts
- In case of an communications failure or blocked frequency

5.8 Before First Flight Checks

The before first flight checks are to be carried out before the first flight of the day or after maintenance.
The aircraft is to be stationary and the PARK BRAKE – SET prior to conducting the checks.

CAUTION

Ensure the aircraft is moved to a position where:

- The propeller will not be damaged by loose debris
- Other aircraft, or ground equipment will no be damaged by prop wash
- Ground personnel are not in danger of propwash
- The aircraft could safely be stopped in the event of a brake failure

5.9 Before First Flight Checklist

BEFORE FIRST FLIGHT (C/R)
Carried out on the first flight of the day or after maintenance. The aircraft should be taxied to a safe position.

1. Power Lvr 400 ft/lbs --C---------- Set
2. Bus Volts----------C---------- Checked
3. Inertial Separator------C --------- Checked
4. Overspeed Governor C --------Checked
5. Standby Power--------C---------Checked

6. Man Elec Pit Trim -----B---------- Checked

NOTE

After conducting items 1-3, leave the power lever at 400 ft/lbs and then you can immediately conduct the overspeed governor check without bringing the power lever to idle.

5.10 Passenger Briefing

A passenger briefing is required for each sector when passengers are carried. This briefing may be carried out by a video presentation prior to boarding the aircraft or the PM during taxi using the PA speaker system. The briefing is to include:

- A welcome on board.
- Crew introduction.
- Location and use of emergency exits.
- Use of seat belts.
- Smoking prohibited
- Location and use of life preservers (if required).
- Location and use of oxygen equipment (if required).
- Location of passenger briefing cards.
- Brief details of flight (duration, level, weather enroute, etc).

Normally this briefing shall be in Indonesian language. If both English speaking and Indonesian speaking passengers are on board, the briefing shall take place in both languages.

DURING TAXI

Selamat pagi/siang/sore para penumpang yang terhormat
Selamat datang di SMART AVIATION
Penerbangan menuju .....(destination)
memiliki waktu tempuh selama ...(hour)jam.....(minute)menit
Silakan memakai sabuk pengaman anda ,dan kami mohon untuk tetap memakai sabuk pengaman anda selama penerbangan.
Penerbangan ini bebas rokok.

Pesawat ini memiliki 4 (empat) pintu darurat. 2 (dua) didepan dan 2 (dua) di belakang.
Jaket pelampung tersedia di bawah kursi anda
Demi keselamatan anda kami mohon untuk membaca kartu petunjuk keselamatan yang tersedia.Terima Kasih.

TURBULENCE

Para Penumpang yang terhormat,
Kita akan memasuki cuaca kurang baik,
Kami mohon untuk mengencangkan sabuk pengaman anda.
Terima Kasih

10 MINUTES BEFORE LANDING

ParaPenumpangyangterhormat,
Kita akan segera mendarat di bandara ..... (destination's airport)
Kami mohon untuk mengencangkan sabuk pengaman anda.
Terima kasih.

AFTER LANDING

Para penumpang yang terhormat,
Kita telah mendaratdi bandara ..... (destination's airport)
Kami mohon untuk tetap duduk dengan tenang sampai pesawat betul-betul berhenti
Petugas kami akan membukakan pintu untuk anda. Terima
Kasih untuk terbang dengan SMART AVIATION.
Sampai jumpa kembali dipenerbangan selanjutnya.

5.11 Crew Briefings

5.11.1 Emergency Brief

On the first flight of the day the crew is to do an emergency brief which can be completed anytime from dispatch until prior to takeoff.

Emergency Brief	
PF	PM
PF: Emergencies during the takeoff prior to being committed and I will call „reject“ and simultaneously select Beta, apply max braking, and reverse as required. You will?“	PM: „Advise ATC we are stopping.“
PF: “Engine failure airborne with flaps 20 I will pitch the nose forward for 85 knots and feather the prop. You will?”	PM: “Call the memory items and make a mayday call.”
For every subsequent flight the crew shall brief emergency items applicable to the airport and runway in use:	
○ Emergency Landing Site Location ○ Turn direction if a return to the field is the only forced landing option (above 1000 ft) ○ Use of EPL if no forced landing sites available	

For guidance on passenger briefing during an emergency situation refer to page 10-4.

5.11.2 Departure and Arrival Brief

Briefing Philosophy

Departure and Arrival briefings should generate thought provoking, relevant, discussion.

Every departure and arrival must be viewed in the context of the specific threats posed by the operation and the strategies, which will be employed to overcome them.

It is recommended you transfer control of the aircraft before beginning the brief.

Procedure :

1 GPS Nav/ VNAV Setup

The Departure/ Approach must be loaded using either the PROC key on the MFD or PFD or checked against a company procedure. Tracks, waypoint and altitude restrictions etc checked against OFP and published procedures.

WARNING

If using GPS as the sole Nav source and operating in IMC conditions

- Waypoints MUST be checked against published lat - long and bearing distance information. If other Nav sources are available or the flight is being conducted in VMC flight conditions this is notnecessary.
- A RAIM check must be completed.

2 Radio aid setup

Radio selections for the departure/ approach shall be made. If additional modifications to existing radio aid selections are required it should be included in the brief.

NOTE

It is recommended that radios are auto tuned through the G1000 to prevent errors.

3 PM crosscheck of all selections

Once the setup is complete the PM shall confirm selections and resolve any questions.

4 Briefing

Structure

PF must display Flight Plan page on the GPS.

Briefing commences with PF reading the RWY/SID/Departure Transition, or STAR/Type of Approach/RWY from the GPS if applicable.

The Briefing has 5 Modules:
–Chart/ Runway
–Terrain
–Weather
–Operational
–Plus threats

Each module shall be discussed in every briefing.
The arrival brief shall be done when the workload is low and preferably prior to descent. It is recommended you make use of the briefing cards until you are comfortable with the format.

5.11.3 Briefing Cards

The following cards represent the minimum information, which is to be discussed for each briefing.

DEPARTURE BRIEF	IFR ARRIVAL BRIEF
Runway – Departing RWY Initial Turn (L/ R) Initial Course Initial Altitude	Chart name and approach Chart number AIP & Jeppesen briefing strip Minimums Vis requirements (if a factor) Missed approach initial actions (if a high probability)
Terrain Relevant terrain and obstacles Minimum safe IFR altitude	Terrain Relevant MSA and highest MSA Relevant terrain and obstacles
Weather – Relevant weather Wind – Wind/ X wind/ Tailwind	Weather – Relevant weather Wind – Wind/ X wind/ Tailwind
Operational Type of takeoff (if non standard) Weight restrictions (if applicable) Any other non standard items	Operational Notams Chart notes and warnings Lateral management Vertical management Speed control Configuration Braking, use of beta/ reverse Diversion plan, holding time
THREATS	
VFR ARRIVAL BRIEF	
Runway – Expected, inspection/ joining procedure	
Terrain – Relevant terrain and	

obstacles	Non standard items
Weather - – Relevant weather Wind – Wind/ X wind/ Tailwind	THREATS
Operational Notams Type of landing (if non standard) Speed Control Configuration Braking/ use of beta reverse Any other non standard items (key points, slope, specific rwy characteristics)	SETUP 1. GPS/ VNAV Setup 2. Nav Radio setup 3. PM Crosscheck 4. Briefing
THREATS	

5.11.4 Expanded Briefing Information

TERRAIN

- Relevant terrain/ obstacles near the airport - departure/ arrival path, Relevant MSA
- If an MSA is unavailable; obtain terrain info from thefollowing:
- Grid MORA
- Enroute charts altitudes
- Area charts
- Approach charts
- Company charts

WEATHER

- Thunderstorms

- Windshear
  - "There is a possibility of windshear, in the event we encounter windshear we will…" (review crew coordination for windshear in section 10)
- Turbulence
- Wind/ X wind
- Rain/ runway contamination
- Reduced visibility
- Low cloud base
- Use of inertial separator
- Use of Pitot Heat
- Use of ignition

OPERATIONAL

- Notams
- Type of takeoff/ landing if nonstandard
- Weight restrictions
- Chart warnings
- Runway conditions, (characteristics i.e. slippery, rough in certain areas, slope)
- Speed control
- Configuration
- Key Points
- Use of AP
- Flight mode selection

- Non normal procedures
- Crew duties
- Holding
- Braking strategy, exit strategy (i.e. braking to exit via „c" taxiway)
- Diversion plan and requirements
- Extra fuel available

THREATS

- ATC
- Comm's

- Tracking
- Procedural Control
- Traffic Density
- Missed approach vital actions if there is a high probability of a missed approach
- Non ILS approaches
- Vertical profile monitoring
- Offset approaches
- Runway characteristics
- People and animal incursions onrunways
- Night
- Crew
- Airport familiarity
- Experience levels
- Fatigue
- Training flights
- GPS cloud break procedures
  - "In the event we get a terrain warning we will"… (review crew coordination in section 10)

NOTE

If you mention a threat, you must also mention the strategy you wish to use to overcome that threat.

5.12 SpiderTrack Satellite Tracking

The important functions for flight crews include:

- Automatic position reporting for flight tracking (no pilot input required)
- Text Message receiving
- Short Code Message sending
- Emergency Alert

Crew duties include:

- Entering a TAxt Message for every flight. This may be done once airborne.
- Pressing the Quick Position (emergency button):

- In the event of an actualemergency
- During an authorized test
- Only the Chief Pilot or Ops Manager may authorize testing.

NOTE

In the interest of flight safety, it is strictly forbidden for any flight crew to switch the unit off except in the following cases:

- o Momentarily switched off and on for unit reset after detecting transmission problems.
- o Permanently switched off due to the unit causing disturbances / interference with other aircraft systems which are essential for safe flight.

For detailed information about the operation of the SpiderTrack Equipment refer to Appendix at the back of this manual.

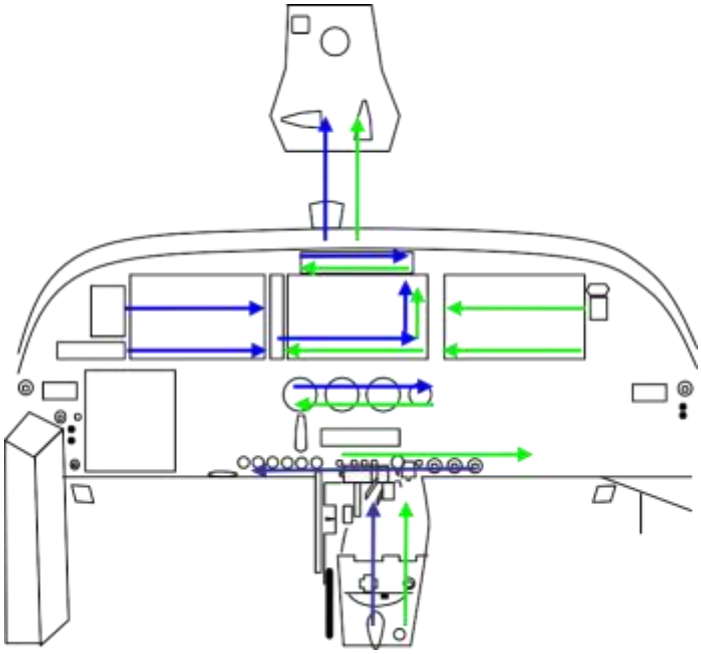
5.13 Taxi Flow Items

Taxi Flow Items:

PF/ PM:

1. Trims (3) .....Set
2. Fuel Shutoff Control ..... In
3. Friction Lock ..... Adjust
4. Flaps 20
5. Cabin Heat Selectors .....All In
6. Flight Controls ..... Check
7. CAS messages ..... Check
8. Instruments ..... Check
9. Terrain Inhibit Switch.....Set
10. Navigation .....Set
11. Fuel Tank Selectors ..... On Both

Figure 5-2 Taxi Flow Diagram



5.14 Taxi Checklist

TAXI (C/R)

Carried out after the instrument checks have been completed and the briefings are complete.

1. Trims ..... B ..... Set
2. Flaps ..... B 20
3. TAWS ..... PF ------- ..... Set
4. Controls ----------PF ---------- Free & Corr
5. Instruments--------B ------Check and Set
6. Fuel Remaining--PF ----------Set
7. Navigation ---------PF ----------_____
8. Takeoff Brief ------PF ---------- Complete
9. SpiderTaxt -------FO ---------- Complete

NOTE

In new or congested airports, it is suggested the taxi checks be completed prior to taxiing the aircraft.

Definitions:

Terrain Switch: Must always be in NORMAL except in airports which are not in the database and would thus cause an immediate TERRAIN warning after liftoff.

Navigation:
CDI ..... (GPS/ VOR) and Intial Course
BRG 1 ..... (NAV 1/ 2/ GPS/ None) and frequency if app)
BRG 2 ..... (NAV 1/ 2/ GPS/ None) and frequency if app)
Initial Alt.....eg 9500 (as read of PFD above altitude)
Squawk ..... Assigned or in absence select 1200 (VFR)

SpiderTrack: All Spidertrack units are connected to the battery bus and are active with

the master switch. The First Officer or Captain check On before or after engine start.

5.15 Navigation Set Up for Takeoff

Although GPS is the primary method of navigating, all applicable navigation aids should be tuned. It is recommended to have the appropriate VOR of the departing airport or appropriate Navaid for the departure procedure. The ILS frequency in case of an emergency return should be set on the Standby (if available). By selecting the bearing pointers to the appropriate Nav 1 and Nav 2 raw data can be monitored.

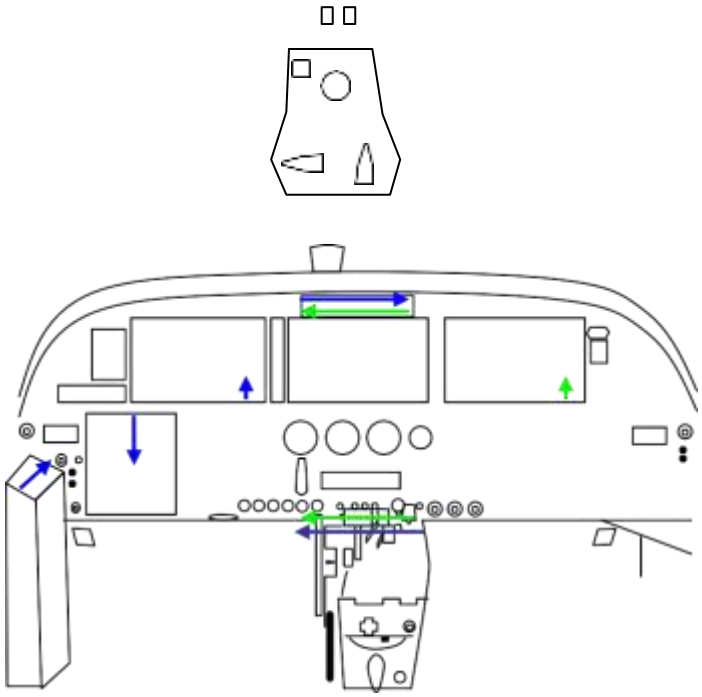
5.16 Flight Director Usage on Takeoff

Use of the Flight Director for takeoff is recommended in low visibility, low ceiling takeoffs. Before entering the runway, the heading bug shall be set to the heading of the runway to be used. The Altitude Selector should be selected to the cleared altitude, or in absence of that, the planned cruising altitude. To use the Flight Director for takeoff select Go Around by pressing the TOGA button on the power lever, and select HDG (ensuring bug is set to runway heading) for the roll mode.

NOTE

Anytime the flight director guidance is not being followed, it must be turned off.

Figure 5-3 Line Up Flow Diagram



5.17 Lineup Flow Items

Captain:

1. Flaps 20
2. Condition Lever.....High Idle
3. Air Conditioning.....Set
4. Lights..... Set
5. Ignition Sw.....On
6. CAS MSG .....IGNITION ON
7. HDG Bug andCRS Selector ..... Set
8. FD /Altitude Selector .....Set

First Officer:

1. Flaps 20
2. Condition Lever.....High Idle
3. Air Conditioning.....Set
4. CAS MSG ..... IGNITION ON
5. HDG Bug andCRS Selector ..... Set
6. FD /Altitude Selector .....Set

NOTE

At or above 5.000 feet elevation the air conditioning MUST be OFF

5.18 Lineup Checklist

LINE UP (C/R)

Carried out once cleared for takeoff and lining up on the active runway.

1. Ignition.....PF ----------.....On
2. Heading ----------B Checked
3. XFR key.....PF.....Set
4. FD/Course /Alt---PF Set
5. Air Cond.....PF.....Set
6. Condition Lvr-----PF---------- High Idle
7. Prop.....PF ----------.....Max
8. Fuel Sel's ----------PF Both On

5.19 Takeoff Procedures

Rolling takeoffs are preferred for passenger comfort and to minimize propeller chips if ample runway is available. Advance the power levers smoothly ensuring that the oil temperatures and pressures are rising normally, the propeller rpm stabilizes at 1900 RPM, and that the Torque, ITT and the %NG remain within limits.

NOTE

During takeoff, torque increases by 30-40 ft/ lbs from 0 to 60 knots. The PM must be prepared to slowly reduce the power as airspeed increases to avoid over torquing the engine.

CAUTION

The EIS torque gage on the G1000 lags behind the commanded setting. To prevent over torque conditions, slowly advance the power lever and allow time for stabilization.

Conservative power settings in takeoff, climb, and cruise, still assuring safe mission accomplishment, will increase engine reliability and save in long-term operational costs.

Once the airspeed shows a positive indication the PM calls: “airspeed alive.” On passing 60 knots IAS, the PM shall call “sixty“ at which point the PF shall check his/ her airspeed indicator and confirm the IAS by calling “checked“. A difference of 10 or more knots at this point requires the takeoff to be aborted. The PM shall keep his/ her hand on the power lever until the flap retraction sequence has begun.

5.20 Rejected Takeoff

If a takeoff is to be aborted, the Captain shall call “REJECT!.” The PF shall simultaneously bring the power lever to BETA, apply braking and reverse as required. The PM shall make a radio call eg. „SNK stopping.“

5.21 Climb Procedure

Initial climb is to 400 feet, during which time no turns or changes to the aircraft configuration shall be made, except absolutely required by terrain, weather or ATC considerations. Initial climb speed VY or VX KIAS for a normal takeoff.

DIFFERENCE NOTE FOR MOUNTAIN OPERATIONS

Due to maneuvering considerations after takeoff, to avoid terrain, maneuvering may be required before reaching 400 feet AAE. The expected departure procedure and early turns must be briefed before departure.

At 400 feet and minimum of 85 knots, the PF calls for “Flaps 10“ at which point the PM will check that the speed is at least 85 knots and call „speed checked“ set the flaps to 10 degrees and call “Flaps 10 selected“. Once the flap position indicator has reached the flaps 10 call “Flaps 10“. After accelerating to a minimum of 95 knots, the PF will call for “Flaps up“ and the PM will check that the speed is at least 95 knots and call “speed checked” set the flaps up and call “Flaps up selected“. Once the white tipped indicator has reached the flaps up mark, call “Flaps up.”

For aircraft equipped with the Aircraft Payload Extender STOL System which allows takeoffs with Flaps 30, the initial procedure and callout is as follows.
At 400 feet and 80 knots, the PF calls for “Flaps 20.”The rest of the cleanup procedure remains unchanged.

DIFFERENCE NOTE FOR MOUNTAIN OPERATIONS

Due to maneuvering considerations after takeoff, the following procedure applies: Flap retraction may be earlier or later than 400 feet AAE depending on conditions. Turns may be accomplished before flaps are moved. The flap retraction sequence must be briefed before departure.

After the flaps are retracted, PF will call “Set Power for Inertial“. The PM will set power to approximately 1.650 foot-pounds, and the Captain will return the Inertial Separator to the normal position. The PF will then call for “climb power“. When climb power is called for, the PM will reduce the prop RPM to 1850 and set torque to within the company climb ITT limit (if required) and call “Climb Power Set“.
See company limitations for climb power limitations.

DIFFERENCE NOTE FOR MOUNTAIN OPERATIONS

To reduce critical ITT during high altitude takeoffs (>4000 feet MSL) the following procedure applies:
Immediately after liftoff the PF will call "Set Power for Inertial." The PM will set power to approximately 1650 foot pounds and the Captain will return the Inertial Separator to the normal position. Then full power is restored until the flaps are retracted.

NOTE

Power reduction may not be necessary at very high altitude airports as the torque is already below 1650 ft/lbs.

5.22 Climb Airspeed

Normal climb airspeed is 110 to 120 knots. The speed may be varied for reasons of terrain, weather, ATC, or time saving.

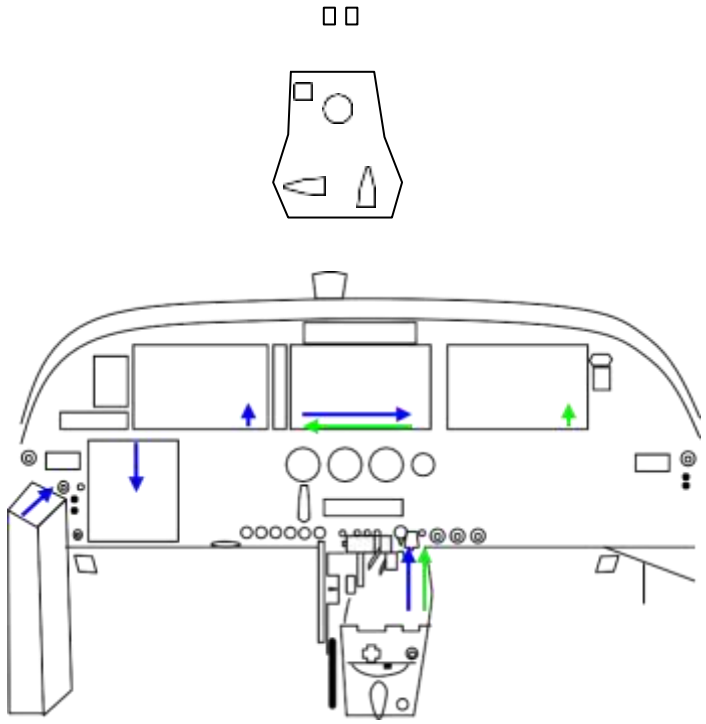
If climbing towards rising terrain requiring a steeper climb angle, 105 knots climb airspeed should be used.

To avoid obstacles or terrain posing an immediate threat, 72 knots climb airspeed should be used.

WARNING

The stall warning is designed to go off between 5 and 10 knots before the stall. Considering the clean stall speed is approximately 63 knots it is possible to get the stall warning prior to reaching 72 knots. The stall warning must be respected at all times.

Figure 5-4 Climb Flow Diagram



5.23 Climb Flow Items

Captain:

1. Ignition Sw ..... Norm
2. Inertial Seperator .....Normal
3. Lights ..... Set

PM:

1. Flaps .....Up
2. IGNITION ON CAS MSG .....OFF
3. MFD/MAP/TERRAIN ..... ON

5.24 Climb Checklist

CLIMB (S)

Carried out silently by the PM once the aircraft has cleared terrain, traffic, and the workload has reduced. Usually above 2000 ft AGL.

1. Flaps.....PM.....Up
2. Inertial Sep--------PM ---------- Normal
3. TAWS----------PM---------- Normal

4. Ignition----------PM---------- Normal
5. Lights..... PM..... Off

5.25 Climb Checklist Operation

The Climb checklist should normally be completed after the departure workload has reduced to an acceptable level, normally above 2000ft AAE. The PM is to silently conduct the checklist ensuring all items have been completed by both crewmembers.

5.26 Use of Altitude Selector

Selection of any ALTITUDE SELECTOR altitude by the PF or PM shall be crosschecked by the otherpilot.
On receiving a clearance, the PF/ PM (see below) shall set the altitude on the indicator and then call for eg. “4.000 feet set.” The PF/PM shall then verify it is set correctly and call “check,” the PM shall then transmit to ATC the level set on the indicator.

1. Autopilot engaged, PF makes changes to AltitudeSelector
2. Autopilot not engaged (hand flying) PM sets Altitude Selector
3. Missed approach altitude shall be set upon intercepting the glide slope on an ILS approach.
4. For Non Precision approaches set minimums upon leaving the FAF. Once initiating the missed approach set the missed approach altitude.
5. Where no FAF exists set minimums upon leaving the last level segment.

Normally, all altitude restrictions should be set in the ALTITUDE SELECTOR window. Notwithstanding, the following exceptions are permitted:

- When compliance with an altitude restriction is assured, the next restriction may be set.
- During CANPA approach procedures.

When within 1.000’ of the selected altitude the altitude alerter will give an audible warning that there is 1.000’ to go to which the PF shall respond “current altitude, descending/ climbing to assigned altitude.” If the altitude alerter fails or is unserviceable, it is the PM’s responsibility to alert the PM whenever there is 1.000 to go by calling “Altitude” to which the PF shall respond “current altitude, descending/climbing to assigned altitude.

The example of the altitude callout would be: “Four Thousand climbing Five Thousand” or “Eight Thousand descending Seven Thousand”

Where ATC issue a climb or descent which is less than 1.000 feet from current level the PF shall use the same call using actual altitudes.

It is vital that crews anticipate the 1000 ft altitude alert and do not blindly rely on the Altitude Selector aural alert for maintaining situational awareness.

5.27 Autopilot Operation

Use of the autopilot is encouraged to reduce workload and improve passenger comfort. The autopilot is a tool to be used to enhance situational awareness but should not be overly relied upon. Careful monitoring and readiness to revert to simplified autopilot modes or disconnect the autopilot are essential when the autopilot is not performing as desired.

The autopilot is to be engaged by the PM, with the PF checking and confirming proper engagement. When the autopilot has been engaged, the PM shall call “autopilot engaged.” The PF shall check that the autopilot is operating correctly and respond “check.”

Any subsequent selections in the form of mode annunciations must be announced by the PF. Eg. “VS, minus 500,” to which the PM should respond “check.”

Prior to disengagement, the PF shall call “disconnecting autopilot” or “disconnecting autopilot and yaw damper.” The PM shall check disengagement of autopilot and yaw damper and respond “check.”

5.28 AFCS Callout Table

The following callouts shall be used with the corresponding annunciations in the AFCS status box.

Mode	Callout
ROL	Roll
PIT	Pitch
HDG	Heading
BC	Backcourse
GPS	GPS
VOR	VOR
VAPP	V Approach
LOC	Localizer
GS	Glideslope
GP	Glidepath
Low bank green arc	Low bank
FLC 100kt	Flight Level Change 100 knots
ALTS	Alt Select
ALTV	Alt VNAV
ALT	Alt Hold
VS -400	Vertical Speed minus 400
VPTH	VNAV Path
TO	Takeoff
GA	Go Around
AP	Autopilot
YD	Yaw Damper

The modes must be called when green (active) and white (armed).
When armed modes appear add the phrase “armed” after reading out the mode.
Eg. PF selects APR key when cleared for an ILS approach PF:
“LOC armed, Glideslope armed”
Modes then become active (green) PF:
“LOC, Glideslope.”

5.29 Standard Altimetry Calls

When altimeters are set, both pilots must repeat the numerals they are setting and cross check the altimeters. The Captains altimeter shall be considered as the master during instrument checks unless proven to be outside tolerances.

The following system of cross checking altimeters during flight is mandatory. Once an altimeter setting is received, the PF shall initiate the call out. For eg. “altimeter 1012, 4500 feet” to which the PM shall respond “1012, 4500 feet checked.”

NOTE

The PF is responsible for the setting of the standby altimeter.

Altimeter Setting, before starting the engine, pilot have to monitor the latest ATIS, then set the altimeter setting. If there is no altimeter setting on the destination airport, pilot have to keep the altimeter setting to the departure airport (airport of origin).

5.30 Rate of Climb/ Descent

Whenever passengers are carried rate of climb shall not exceed 800 fpm. Rate of descent should normally be scheduled to be 500 fpm. Up to 700 fpm is acceptable on a normal descent. On an instrument approach, a descent of up to 900 fpm is acceptable, but only when required.

5.31 Departure Callout Tables

On the ground

Condition	Caller	Call	Action	Responder	Response
Setting Power for Takeoff	PF	""Set Power""	Advances power to takeoff setting, once set calls.	PM	""Power Set""
Airspeed Alive	PM	“Airspeed Alive”	PF checks onside airspeed alive	PF	“Check”
Airspeed/ Incapacitation check on Takeoff*	PM	"60 knots"	When the PM airspeed reaches 60 knots, make the call. If the PF notices his airspeed is more than 10 KIAS off, reject the takeoff and an investigation is required*	PF	“Check”
Rejected Takeoff	PF/PM	""Reject""	Power Lever to beta, brakes and reverse as required	PM	""SNK Stopping"" call to ATC
*NOTE – On some runways it is unsafe to reject the takeoff at 60 knots.					

Airborne

Condition	Caller	Call	Action	Responder	Response
400 feet with 85 KIAS	PF	""Flaps 10""	Ensure speed is 85 KIAS, move flap lever to flap 10 detent	PM	""Speed Checked, Flaps 10 selected""
Flap indicator reaches flaps 10	PM	""Flaps 10""			
Aircraft accelerates to 95 knots with flaps 10	PF	""Flaps UP""	Ensure speed is 95 KIAS, move flap lever to flaps UP	PM	""Speed Checked, Flaps UP selected""
Flap indicator reaches flaps UP	PM	""Flaps UP""			
Power reduction for inertial separator to be stowed	PF	""Set Power for Inertial""	PM reduces power by approx 200ft/lbs,Capt then stows inertial		

			separator.		
Inertial Separator stowed	PF	""Set Climb Power ""	PM reduces prop RPM to 1850 and adjusts torque whilst monitoring engine limitations	PM	""Climb Power Set""
Clearance to 4000 feet issued	PF	""4000 feet set""	PF sets 4000' on Altitude Selector, PM verifies correct altitude set *note this is only if AP is engaged	PM	""Check""
1000 feet from cleared altitude	PF/PM	""3000 climbing 4000""	Ensure ALT is armed if AP engaged	PF/PM	""Check""
Clearance direct TMK issued	PF	"Direct TMK"	PM selects Direct, highlights TMK	PM PF	"Confirm" "Execute"

Condition	Caller	Call	Action	Responder	Response
Receipt of new altimeter setting or climb or descent through transition altitude	PF	""altimeter 1012, 4500 feet""	PM ensures 1012 is set, checks altitude	PM	""1012, 4500 feet checked"" or differences
Pilot stops monitoring active frequency	PF/PM	""Off Air""			
Pilot returns to monitoring active frequency	PF/PM	""On Air""			
Bank angle greater than 30 Degrees	PM	""Bank Angle ""	PF shall return the bank angle towithin 30 degrees	PF	""Correcting""
Aircraft leaves assigned altitude by more than 200 ft	PM	“Altitude”	PF shall return the aircraft to assigned level	PF	“Correcting”
Transfer of Control of Aircraft*	PF	""You have control""	Other pilot takes control and responds	PM	""I have control

					""
*NOTE – If the AP or FD is in use, press the XFR Button. The other pilot will then need to reselect modes as the AF/ FD will default to ROL and PIT.					
PF makes AP mode selections (AP engaged)	PF	""Heading, Flight Level Change", ALT armed" after ensuring AFCS annunciations correct	PM checks AP mode annunciation as called out	PM	""Check""
PF requests mode selections(AP disengaged, FD only)	PF	""Select Heading, VS - 200""	PM selects Heading and VS - 200. PF calls out annunciations: "Heading, VS-200""	PM	""Check""
Autopilot engaged	PF	""Autopilot Engaged""	PM checks AP annunciation	PM	""Check""

6 Cruise

6.1 Cruise Power Setting

Standard Cruise Torque Settings			
Normal - 1750RPM		VIP - 1600RPM	
4000ft.	1600ft/lbs	4000ft.	1650ft/lbs
6000ft.	1550ft/lbs	6000ft.	1600ft/lbs
8000ft.	1470ft/lbs	8000ft.	1550ft/lbs
10000ft.	1400ft/lbs	10000ft.	1500ft/lbs
11000ft.	1350ft/lbs	11000ft.	1450ft/lbs
12000ft.	1300ft.lbs	12000ft.	1420ft/lbs

NOTES:

1. ITT shall not exceed 700 °C (see company limitations)
2. Ng shall not exceed 101.6% Ng
3. The above settings are for standard temperatures in Indonesia. It is the crews responsibility to ensure max cruise torque is not exceeded
4. Refer to the POH page 5-34 for more information on cruise power settings.

When crews have a strong tailwind, they are encouraged to use the Max Economy setting to save on fuel costs as long as the schedule is not compromised. With a strong headwind crews may use Max Cruise.

When crews are behind schedule, Max Cruise may be used to make up time.

The POH cruise charts in section 5 must be referred to when selecting max cruise power.

6.2 Use of Navaids for EnrouteNavigation

GPS should be used as the primary means of navigation; however, “Raw data” meaning VOR’s should also be monitored to ensure accuracy. Using the bearing needles as required while using GPS on the CDI is acceptable.

NOTE

The autopilot only uses the FD selected by the XFR key. When the XFR key is selected, new FD modes must be selected as the AFCS will default to ROL and PIT.

WARNING

Before using any Navaid ensure the CDI is properly selected.

6.3 Engine Trend Monitoring

Regular trend monitoring during stabilized flight is an essential part of the company's maintenance program. The early detection of changes in engine parameters can prevent more costly repairs being necessary at a later time.

Trend capturing is automatic. If desired you can manually select a trend by pressing the TRND/ACK softkey which monitors EIS trends for 5 seconds and saves the average and maximum values (if no ADASd-generated alerts exist). If ADASd alerts exist it acknowledges generated alerts.

If the engine readings are abnormal use the CAPTURE softkey. This captures EIS data for the previous 2 minutes of ADASd history and continues capturing EIS data for 2 minutes after softkey selection.

6.4 Turbulent Air Penetration

Flight through light turbulence can be done without any changes to normal procedures. Flight through moderate turbulence should be done at reduced airspeed (see maneuvering speeds in the POH) for passenger comfort and aircraft structural integrity. These speeds shall be considered the maximum to be used not the target speed. Flight through severe turbulence should be avoided. The autopilot should be disengaged during turbulence penetration.

When turbulence is anticipated or encountered and cannot readily be avoided, the following techniques should be adhered to:

- Check that passengers, baggage, and freight are secured.
- Select a heading that will take the aircraft through the area in the shortest possible time.
- Ensure that adequate terrain clearance is maintained by flying at least 2000 ft above all obstacles within 5 miles of track.
- For flight in light or moderate turbulence, the captain may use the autopilot at own discretion. For flight in severe turbulence, the autopilot must be OFF. Fly the aircraft manually. Maintain attitude control with the attitude indicator, accepting altitude changes and speed variations whilst keeping the attitude within safe

limits. Roll must be closely controlled, because if a large bank angle is allowed to develop, recovery can be delayed by turbulence.

6.5 Avoidance of Thunderstorms and Associated Hazards

Company policy is that Captains will try to avoid severe turbulence; particularly that associated with Cumulonimbus activity whenever possible.

Takeoff and landings should not be attempted when CB activity is present within 5 nm of an airfield. All CB activity should be avoided by at least 5 nm, and this should be increased to 10 nm for any thunderstorm identified as severe or giving an intense radar echo. Regard as extremely hazardous any CB with tops higher than 35 000 ft whether the top is visually sighted or determined by radar.

Vivid and frequent t lightning indicates the severity of a thunderstorm. A lightning strike can puncture the skin of an aircraft and can damage communication and navigation equipment. In addition it can damage engine components and has been suspected of igniting fuel vapors and causing explosion. It can cause permanent errors in the magnetic compass.

Hail may be encountered in clear air several miles from a thunderstorm, usually on the downwind side of an anvil. Rain at the surface does not mean the absence of hail aloft. Anticipate the possibility of hail with any thunderstorm.

Captains must also be aware of the possibility of windshear associated with microbursts from large CB's and large Cu's. If encountered near the ground, these can have catastrophic results.

WARNING

Smart Aviation aircraft are not to attempt a takeoff or an approach when there is a windshear alert or a preceding aircraft has reported windshear until the condition causing this condition has ceased (i.e. thunderstorm over the airport).

7 Arrival

7.1 Use of VNAV

Use of VNAV is recommended to help reduce workload and provide an efficient descent profile.

Prior to descent:

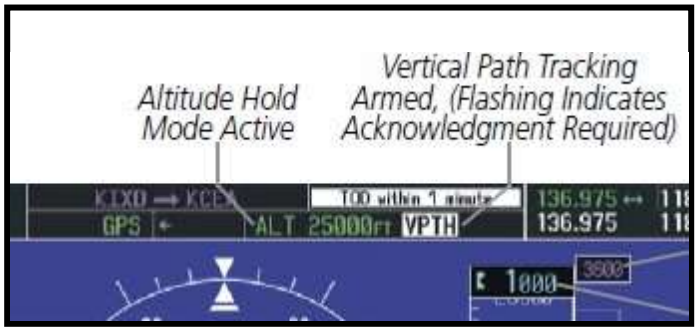
As per the briefing guidelines, crews must crosscheck all altitude constraints.

Top of descent:

Crews may arm VPTH at any time or wait for the “TOD within 1 minute” message to appear.

If VPTH is already armed the crew must complete one of the following within 1 minute of descent:

- Set a lower altitude; or if this is already completed
- Press the VNV key



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During descent:

If descent clearance is delayed or VPTH wasn’t acknowledged in time, VPTH remains armed and can be recaptured using VS, PIT, or FLC as appropriate. If there is any ambiguity or confusion as to what the VNAV function is doing, crews must not hesitate to revert to conventional means ofprofile management.

It is recommended that the VNAV function be used to cross the IAF at the prescribed altitude allowing for time to decelerate if required for instrument approaches and from the airport - 2 miles @ 1000 ft AAE for visual conditions.

NOTE

When vectors to final has been selected, VNAV VSR (vertical speed required) is no longer available.

7.2 Descent Power Setting

Throughout descent the power lever shall be left at the cruise power setting. As the aircraft descends the torque increases and the airspeed can quite easily exceed the maximum speed at lower altitudes. Do not exceed 170 knots or allow the airspeed trend vector to exceed 175 knots.

7.3 Rate of descent

The rate of descent shall be limited to 500 fpm where possible to avoid discomfort, however if unavoidable due to approach or ATC procedure 900 fpm shall be permitted. When passengers are not carried, rate of descent limitations do not apply other than the stabilized approach guidelines.

7.4 Holding

Configuration: Holding is to be conducted in the clean configuration.

Speed: Minimum of 100 knots. This speed should be increases in areas of turbulence.

Each hold shall be briefed using the TSAFEformat:

T - Type of hold entry, direction of initial and subsequent turns, and timing.
S - Speed to be maintained in the hold.
A - Altitude you have been cleared to hold.
F - Fuel. The time you can hold before executing an approach or diverting.
E - Expect further clearance time in the event of a communications failure. Fuel Flow should be based on 300 PPH for planning purposes.
If the holding pattern is charted and the controller doesn't issue complete holding instructions, hold as depicted on the appropriate chart.

Timing:

Based on the inbound leg. 1 minute. The crew should use the TMR/REF softkey to time the hold.

Nav setup for holding:

GPS mode using OBS can be used as long as either BRG 1 or BRG 2is selected to the appropriate navaid.

7.5 Flap Selection

The challenge and response for flap selection is as follows:

"Flaps10" (PF), to which the response shall be "Speed checked, flaps 10 selected…..Flaps 10" (PM)(when the white tipped flap position indicator correctly shows the selected flapsetting).

The response "selected" is made by the PM when the appropriate lever is moved. The PM shall monitor the flap position and alert the PF if the flaps do not reach the desired position. The flap position is to be described as either Up, 10, 20 or FULL.

7.6 Approach Category

All approaches for the Caravan are Cat A.

7.7 PANS OPS Approach Category Table

Category	Vat (threshold speed)	Range of speeds for initial approach	Range of final approach speeds	Max speeds for circling
A	<91	90/150 (110*)	70/100	100
*Max speed for reversal and racetrack procedures				

7.8 Navigation Setup for Approaches

Garmin 1000:

Whenever approaches are in the database they shall be loaded to aid in situational awareness. Additionally GPS guidance can be used for procedure turns, holds (procedural, otherwise use OBS function), distance from threshold and missed approach point as long as raw data is monitored. Aside from NDB approaches the Final approach course must be flown with the CDI selected to NAV 1 or NAV 2 and the appropriate navaid. NDB approaches may be flown using either a loaded approach or in absence of that by using the OBS function.

Whenever being radar vectored, select the vectors to final function to aid in situational awareness of the final approach course.

VOR:

For VOR approaches, it is recommended GPS guidance is used until on an intercept heading to the final approach course while bearing 1 or 2 are used to monitor raw data. Once on an intercept heading Select the CDI to NAV 1 or NAV 2 confirm the inbound course is set.

ADF:

The G1000 does not have an ADF. To simulate an ADF needle, select direct to the appropriate NDB on the flight plan and select BRG 1 or BRG 2 to GPS. OBS mode using the GPS is highly recommended for accuracy and reduced workload.

MINIMUMS:

For every instrument approach the barometric minimums must be set. Select TMR/ REF softkey and under minimums ensure BARO and select:

- For ILS approaches set MDA.
- For Non precision approaches set MDA + 50.

o For visual approaches in reduced visibility set 500 feet AAL.

7.9 Approach Briefing

The most important factor of the approach briefing is that it is carried out in a low workload environment when both crewmembers can take in information. If available, engage the autopilot and pass control to the other pilot.

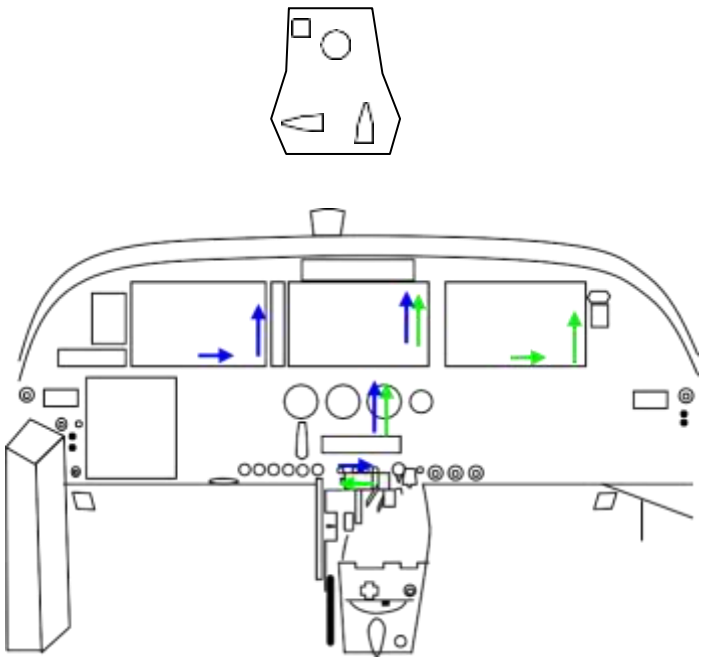
Both crew members are to have approach plates displayed when conducting any instrument procedure.

7.10 Approach Deviation Callouts

Condition	Caller	Call	Action	Responder	Response
Aircraft descends below an approach minimum altitude	PM	"Altitude"	PF climbs to minimum altitude	PF	"Correcting"
Localizer ½ scale deflection or more	PM	"Localizer"	PF takes correctiv e action	PF	"Correcting"
Course ½ scale deflection or more	PM	"Course"	PF takes correctiv e action	PF	"Correcting"
More than 5 degrees from final approach course	PM	"Course"	PF takes correctiv e action	PF	"Correcting"

(SKW)					
GS more than half scale deflection after established	PM	“Glideslope”	PF takes corrective action	PF	“Correcting”
ROD different by more than 200 fpm of briefed ROD from the FAF (CANPA)	PM	“Descent Rate”	PF takes corrective action	PF	“Correcting”
Aircraft more than +/- 5 knots from briefed speed once established on final	PM	“Speed”	PF takes corrective action	PF	“Correcting”
ROD greater than 1000 fpm	PM	“Sink Rate”	PF immediately reduces ROD	PF	“Correcting”
LOC or GS* full deflection *note GS can be captured from above (see criteria below)	PM	“Full deflection, Go around”	PF advances power lever and pitches the nose up	PF	“Go around, set power, flaps 20”

Figure 7-1 Descent Flow Diagram



7.11 Descent Flow Items

Captain and FO:

1. Air Conditioning – Set
2. Altimeters – Set* PF sets standby
3. Navigation – Set and Checked
4. Minimums – Set

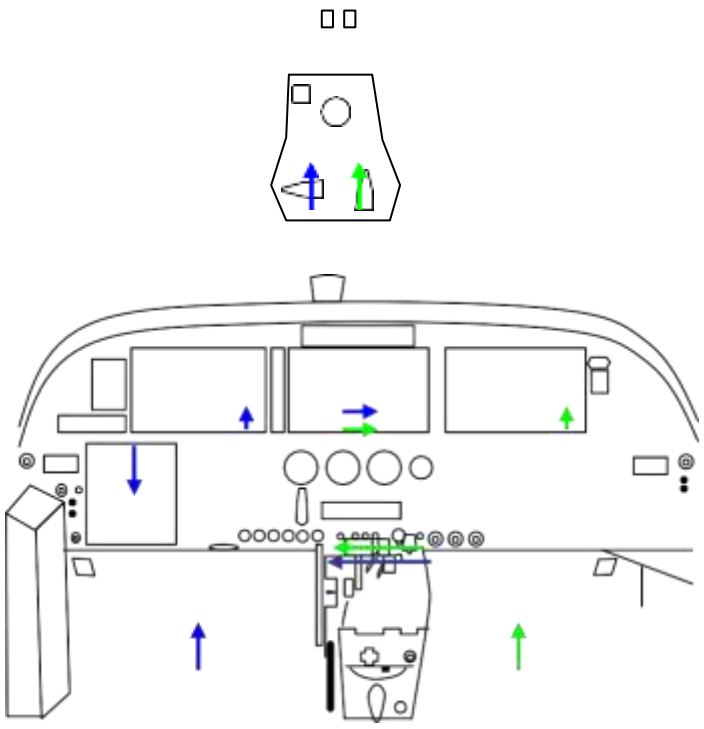
7.12 Descent Checklist

DESCENT (C/R)

Carried out once the ATIS information (if applicable) has been received and the set up and briefings are complete.

1. Altimeters----------B--------- QNH_____Set
2. Apprch Briefing----PF----------Complete
3. Nav/VNAV----------PF---------- Set
4. Minimums----------B ---------- _____Set

Figure 7-2 Approach Flow Diagram



7.13 Approach Flow Items

Captain:

1. Fuel Condition Lever .....High Idle
2. Brakes.....Check
3. Lights ..... Set
4. TAWS..... Set
5. Fuel Selectors .....On Both

First Officer:

1. Fuel Condition Lever ..... High Idle
2. Brakes.....Check
3. TAWS..... Set
4. Fuel Selectors .....On Both

7.14 Approach Checklist

APPROACH (C/R)

Carried out approximately 15 miles from the airport.

1. Fuel Tanks----------PM---------- Both On
2. TAWS..... PM..... Set
3. Lights..... C ---------- Set
4. Brakes----------B Check

WARNING

Before setting the TAWS to INHIBIT while approaching non-database airports, both pilots must confirm visual conditions. TAWS may not be INHIBITED in IMC conditions.

7.15 Procedure Turn and Initial Approach

Cross the procedure turn fix at flaps 10 and below 130 KIAS and the prop full forward.

If a complete arrival procedure has been selected via the GPS, the initial approach phase may be completed using the GPS for guidance (if the approach is in the database). Raw data must be monitored.

7.16 Stable Approach Concept

A Stabilized Approach is one of the key features of safe approaches and landings in air transportation operations. It is intended to decrease workload, minimize crew distraction, and reduce the hazards associated with configuration changes at a critical phase of flight; generally it improves the likelihood of a successful approach.

A stabilized approach is characterized by a constant-angle, constant rate-of- descent approach profile ending near the touchdown point, where the landing maneuver begins.

7.17 Stable Approach Elements

Stable by 1000 ft IMC or 300 ft in VMC

1. The Aircraft is on the correct flight path
2. Only small changes in heading/ pitch are required to maintain the flight path
3. Aircraft speed not greater than Vref + 20 and not less than Vref — 5
4. The Aircraft is in the correct landing configuration
5. Sink rate is no greater than 1000 FPM; if greater than 1000 FPM is required a special briefing shall be included in the approach briefing
6. Power setting is appropriate for the aircraft configuration and is not below the minimum power for approach (300 ft/lbs)
7. All briefings and checklists have beencompleted.
8. Specific types of approaches are stabilized if they also fulfill the following: ILS must be flown within 1/2 scale deflection of the localizer and G/S.
9. During a circling approach, wings should be level at or before 300 feet above airport elevation when establishedfinal
10. Unique approach procedures or abnormal conditions requiring a deviation from the above elements require a special briefing for. The briefing shall include at which height the aircraft will be “stable“. This height shall never be below 300’ the procedure at the airport calls for it. (mountain operations)

An approach that becomes unstable below 1000 ft in IMC and 300 in VMC requires an immediate Go-Around.

NOTE

If flight conditions are reported as greater than 5000m visibility and 1000 ft ceiling and the aircraft enters visual flight conditions during an instrument approach, the aircraft can transition from an instrument approach to a visual approach and be subject to the 300 ft stabilization criteria.

NOTE

No Go-Around performed by Smart Aviation crew will ever be investigated or followed up in a punitive way. Reasons for a Go-Around may be required for analysis but no crew will be "blamed" for doing it. The opposite however, which is the continuation of an unstable approach, will have punitive consequences.

7.18 Mandatory Missed Approach

On all instrument approaches, where suitable visual reference has not been established and maintained, execute an immediate missed approach when:

- A navigation radio or flight instrument failure occurs which affects the ability to safely complete the approach.
- The navigation instruments show significant disagreement.
- On ILS approach and the localizer or the glide slope indicator shows full deflection.
- On a VOR approach and the course shows full deflection.
- On an NDB approach and the aircraft is beyond 5 degrees of the final approach course.
- On a precision approach radar (PAR, usually limited to military aerodromes) approach and radio communication is lost.

7.19 Limit of approach attempts

If an approach was discontinued for any reason, it may only repeated if the crew can identify factors affecting the first approach attempt which if improved, will make a second attempt more likely to succeed (e.g. an improved weather report from the ground, lack of precision flying the first approach etc.). If the likely outcome of the second approach is not considered to be different than the first, no second approach

may be attempted.

Under no circumstances may a third approach be attempted. After two unsuccessful approach attempts, the flight must be diverted to the alternate airport.

7.20 ILS Approach

7.20.1 Callouts

NOTE

The following table depicts an ILS with the AP in use.

Condition	Caller	Call	Action	Responder	Response
On intercept heading and when cleared for the approach	PF	IMDN* identified, correct sensing LOC, GS armed * the ILS frequency visually identified	PF selects APR on AP and verifies correct annunciation	PM	"Check"
Localizer moves off full deflection	PM	Loc alive	Nil	PF	Check
LOC moves from armed to active (left to right and turns green)	PF	LOC captured,	Crew checks correct annunciation of LOC capture PF selects HDG bug to	PF	Check

			runway heading		
GS moves off full deflection	PM	Glideslope moving	Crew ensures GS armed	PF	Check
Crew checks annunciation of GS right to left and turns green	PF	Glideslope captured, missed approach altitude set	PF selects missed approach altitude on Altitude Selector	PM	Check
Aircraft passes Glideslope Crossing Height. (Identifiable by DME, Marker, or Navaid)	PM	4.6 miles, glideslope checks	PM checks glideslope crossing height is correct	PF	Check

Condition	Caller	Call	Action	Responder	Response
Aircraft passes within 1000 ft of MDA	PM	1000 to minima	PF crosschecks	PF	Check
Aircraft passes within 100 ft of	PM	Approaching minima	PM searches for	PF	Check

MDA			visual cues		
Aircraft at MDA	PM	Auto callout “Minimums, Minimums” Or PM “Minimums”	PF initiates go around or landing depending on whether visual reference acquired	PF	""Continue"" or ""Go Around Set Power, Flaps 20""
The PM shall call out exactly what he/ she sees when visual contact is established with the runway environment. Eg. Runway lights in sight, threshold in sight, approach lights in sight, markings etc.					

7.20.2 AP/ FD Use on ILS Approaches

When on an intercept heading and cleared for the approach, select APR and observe the LOC and GS AFCS annunciations.
APR mode should not be selected until:

- The ILS is tuned and identified
- The aircraft is on an inbound intercept heading
- Both localizer and glide slope pointers appear on the PFD display in the proper position (correct sense)
- Clearance for the approach has been received.

If cleared to intercept the localizer only
The crew must select NAV mode. Selecting APR arms the GS.

Capturing the Glideslope from above
Due to radar vectors, wind, late approach clearance etc. it may be necessary to intercept the glideslope from above.
Procedure:
Set 1000 ft on the Altitude Selector
Select VS - 900 FPM
Once GS captures, set missed approach altitude
If GS isn‘t captured by 1000ft and in IMC, carry out a missed approach. If GS hasn‘t

captured by 1000ft and VMC, the approach may be continued to 300ft; however, if not stable by then the approach must be discontinued.

Reducing speed to minimum approach speed will help increase the descent angle.
The PM must crossheck the next crossing altitude to prevent a false GS capture.

NOTE

In IMC, descent below the last ATC cleared altitude shall be commenced only if established on the localizer.

7.20.3 Altitude Selector Use on ILSApproaches

On procedure turns, the next limiting altitude may be set once ALT annunciates as the active pitch mode while using either the AP or FD. If using raw data, the next limiting may not be set until reaching the next stepdown point on the approach procedure.

Once the GS has been captured the missed approach altitude shall be set.

7.21 Non ILS Instrument Approaches

Non-ILS approaches are defined as:

- GPSapproach
- VOR approach
- NDB approach
- LOC, LOC-BC

Non-ILS approaches are normally flown using VS.
Recommended roll modes will be discussed separately.

7.21.1 Non ILS Instrument Approaches General

Over the past several decades there have been a number of CFIT and unstabilised approach incidents and accidents associated with non-ILS approaches and landings. Many of these could have been prevented by the use of constant angle approach methods. Traditional methods of flying non-ILS approaches involve setting a vertical

speed on final approach, leveling off at step-down altitudes (if applicable) and at MDA(H), followed by a transition to a visual final approach segment and landing.
These traditional methods involve changing the flight path at low altitudes and are not similar to methods for flying ILS approaches. Further, these traditional methods often require of the crew a higher level of skill, judgment and training than the typical ILS approach.

The following sections describe methods for flying constant angle non precision approaches (CANPA). These methods provide a constant angle approach, which reduces exposure to crew error and CFIT accidents. These methods also make it much easier for the crew to achieve a stabilized approach to a landing once suitable visual reference to the runway environment has been established.
A typical Instrument Approach using V/S assumes all preparations for the approach; such as review of the approach procedure and setting of minima and radio tuning have been completed.
The procedures illustrated focus generally on crew actions and avionics systems information. The flight pattern may be modified to suit local traffic and air traffic requirements. The following discussions assume a straight-in instrument approach is being flown.

7.21.2 Approach Preparations for CANPA

In addition to normal approach preparations conduct the following:

- Compute the expected groundspeed
- Confirm the published vertical speed or computed vertical speed for the final descent

NOTE

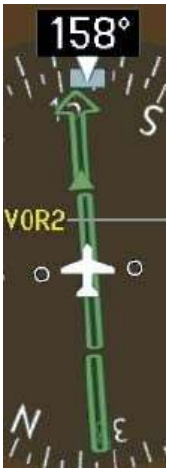
If the descent profile is approximately 3 degrees, take your ground speed X 5 to calculate your required rate of descent.

Eg. GS 100 knots = 500 fpm required ROD.

7.21.3 AP/FD Use on CANPA Approaches

Automatic flight is the preferred method of flying non-ILS approaches. If this is not possible (ie. AP unserviceable) use of the flight director is recommended.

When on an intercept heading and cleared for the approach, select APR and observe the VAPP mode annunciation is armed (for VOR approaches).



APR mode should not be selected until:

- The VOR* is tuned and identified
- CDI Green with correct Nav source selected.
- The aircraft is on an inbound intercept heading
- CDI is in the proper position (correct sense)
- Clearance for the approach has been received.

*For NDB Approaches using either OBS, or a loaded approach, ensure CDI is set to GPS and the NDB is the active waypoint. Follow the same procedure as outlined above.

7.21.4 Altitude Selector Use On CANPA Approaches

AP/FD in use: once inbound to the FAF and in ALT hold mode, set the MDA. If the MDA is not at an even 100 ft. increment, set the ALTITUDE SELECTOR altitude to the nearest 100 ft. increment above the MDA (H). Once commencing the missed approach set the missed approach altitude.

7.21.5 Final Approach Using VS

Approaching the FAF (approximately 1-2 nm), select flaps 20 and adjust speed to 90 KIAS.
At or after the FAF or once established inbound on an approach with no FAF: commence descent and do the Finals checklist. Select VS mode and descend at appropriate vertical speed, to arrive at the MDA(H) at a distance from the runway (VDP) to allow a normal landing profile.
If no recommended vertical speeds are available, set .approximately 400 to 500 fpm.
When stabilized in a descent on final approach, use one of the following techniques to make small incremental changes to the resulting vertical speed to achieve a constant angle descent to minimums.
Several techniques may be used to achieve a constant angle path that arrives at MDA(H) at or near the VDP:

- Descend @ 5 X your groundspeed (for a 3 degree slope).
- Using 300 ft. per nm for a 3° path, determine the desired HAA which corresponds to the distance in nm from the runway end. The PM can then call out recommended altitudes as the distance to the runway changes, for example: 900 ft = 3 nm, 600 ft = 2 nm. etc.

The descent rate should be adjusted in small increments for significant deviations from the nominal path.
Be prepared to land or go-around from the MDA(H).

NOTE

A normal landing cannot be completed from the published missed approach point on many instrument approaches.

Leaving the MDA(H), disengage the autopilot.. Complete the landing.

7.21.6 Minimum Descent Altitude MDA(H)

Approaches should be flown to a published MDA(H) used as a decision altitude.
The PF should expand the instrument scan to include outside visual cues when approaching MDA(H). Do not continue the approach below MDA(H) unless the aircraft is in a position from which a normal approach to the runway of intended landing can be made and suitable visual reference can be maintained. Upon arrival at MDA(H) or any time thereafter, if any of the above requirements are not met, immediately execute the missed approach procedure.

When suitable visual reference is established, maintain the descent path to the flare. Do not descend below the visual glide path.

NOTE

Crews should initiate the missed approach at MDA(H) + 50 to prevent descent below MDA(H).

Gnd speed-Kts		70	90	100
GS	3.00°	377	484	538
MAP at MM or				
GS Intcpt to MAP	4.2	3:36	2:48	2:31

Figure 7-3 Published Vertical Speeds and Glideslope Angle

7.22 CANPA Callout Table

The following table shows a VOR CANPA approach.

NOTE

The table assumes the Autopilot is inuse.

Condition	Caller	Call	Action	Responder	Response
Intercept heading to final approach course	PF	Correct sensing , MDN identified, V APPROAC H armed (VAPP)	PF selects APR, confirms correct annunciation	PM	Check
CDI moves off full scale deflection	PM	Course Alive	Nil	PF	Check
VAPP annunciate s as the active roll mode	PF	V Approach captured	Captain sets heading bug to final approach course	PM	Check
Approaching FAF (1.0 NM)	PF	Flaps 20	PM selects flaps 20	PM	“Speed Checks, Flaps 20”
At FAF (0.5NM)	PF	Minimums set (Altitude Selector) “Flaps Full VS-400”	PF selects minimums on Altitude Selector and VS-400, PM crosschecks	PM	Check

			PM selects full flaps		
Aircraft descends from the FAF	PM	Next restriction 1500 ft at 5 miles	PF crosschecks	PF	Check
1000 to minim a	PM	1000 to minim a *note, the Altitude Selector should beep when within 1000 feet of minima	PF crosschecks	PF	Check

Condition	Caller	Call	Action	Responder	Response
Aircraft passes within 100 ft of stepdown altitude prior to reaching 5 miles	PM	Approaching stepdown	PF begins to level the aircraft	PF	Check, levelin g

Aircraft passes 5 miles at 1550 ft	PM	Stepdown made, next restriction minimums* Note, you would call the next stepdown if applicable	PF crosschecks and continues descent	PF	Check, continuing descent
100 ft from MDA	PM	Approaching minimums	PF prepares for a go around if not visual	PF	Check
MDA+50	PM	Autocallout "Minimums Minimums"	PF conducts go around or continues	PF	Go around, set power, flaps 20 or Continuing

NOTE

If descent is flown correctly, the aircraft should not have to level and all restrictions should be made.

7.23 Missed Approach

7.23.1 Missed Approach Callout Table

Condition	Caller	Call	Action	Responder	Response
Aircraft at DA or MDA + 50	PM	Minimums, No Contact	PF initiates go around Advances power towards 1800 ft/ lbs and pitches approximately 8 degrees up initially	PF	""Go Around Set Power, Flaps 20""
Aircraft beginning missed approach procedure	PM	Power Set, Flaps 20*	PM sets go around power, then selects flaps 20 *If approach was conducted with less than flaps 20, flaps stay where they are until passing 400 ft AAL. PM then sets Missed Approach Altitude	PF	Check

400 ft	PF	Select HDG	PF selects HDG, confirms missed approach altitude	PM	Heading,
Flaps retracted and inertial seperator stowed as per normal takeoff					
If the approach is in the database, the GPS can be used to fly the Missed approach procedure: NOTE the waypoints will suspend once crossing the missed approach point, therefore you will need to select the OBS button to sequence waypoints, select CDI to NAV 1 or NAV 2, then select NAV mode on the AP					

7.24 Circling Approach

7.24.1 AP/ FD use On a CirclingApproach

Ensure MDA is set on the Altitude Selector. ALT will capture. Once within the circling area select HDG mode for the circling procedure.

NOTE

Use the RWXX waypoint on the FPL if available to give you distance from threshold. . Example: Using Cat A minimums, do not start the turn to downwind until the RWXX waypoint shows 1.68 miles or less.

7.24.2 Altitude Selector Use On a Circling Approach

Altitude selections should be made in accordance with the procedures laid out for the CANPA approach procedure.

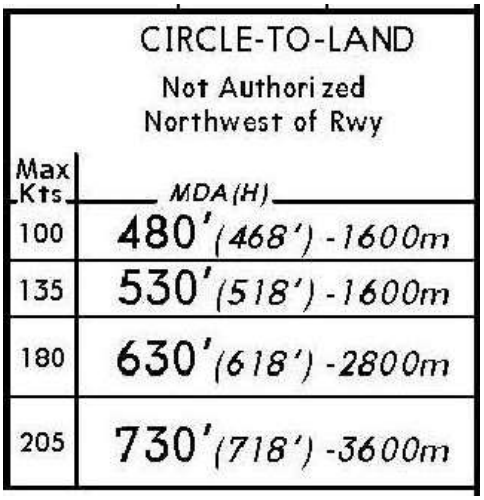
7.24.3 Obstruction Clearance for a Circling Approach

For circling approaches, maximum airplane speeds are shown on the approach plate instead of airplane approach categories. Circling approach minimums for both FAA and ICAO criteria are based on obstruction clearance for approach maneuvering

within a defined region of airspace. This region of airspace is determined by maximum IAS. This region gets larger with higher speed, which may result in higher approach minimums depending on the terrain characteristics surrounding the airport.

Similarly, lower airspeed may result in a lower approach minimum. Additionally; circling restrictions are placed under the CIRCLE-TO-LAND title.

Figure 7-4 Circling speeds and circling restrictions

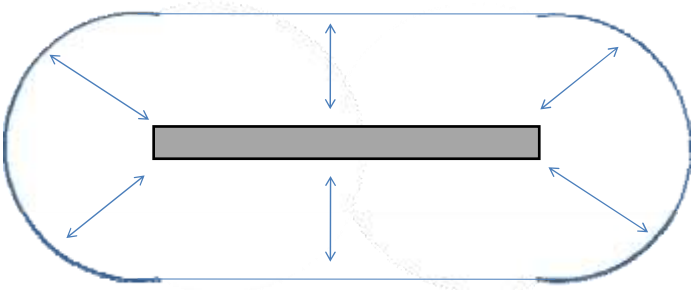


7.24.4 Circling Category

Circling approaches can be either Cat A or B for Smart Aircraft. If Cat B is used, ensure the Cat B minimums are used (which may be more restrictive. See figure 7-4 for an example of this). Additionally the intended Category shall be included in the approach brief. Categories are based on PANS OPS criteria as indicated on the bottom left corner of the approach chart.

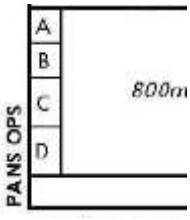
Category	A
MAX IAS	100
Radius NM	1.68
PANS OPS (see lower left edge of approach plate) Based on radius from thresholds	

Figure 7-5 Circling radius (Cat Ashown)



1.68NM Cat A PANS OPS

Figure 7-6 PANS-OPS shown on bottom left corner of approach chart along with categories



Adjust airplane heading and timing so that the airplane ground track does not exceed the obstruction clearance distance from the runway at any time during the circling approach.

It is recommended that at minimums turn 45° left or right as appropriate and time for 30 seconds before turning to the downwind heading. Once abeam the landing threshold, time for 20 seconds before beginning the turn to base. This should ensure the aircraft stays within the protected area. Before turning base or when initiating the turn to base leg, select flaps full and begin decelerating to the approach speed plus wind correction. Complete the Finals checklist. Do not descend below MDA(H) until intercepting the visual profile to the landing runway. Leaving MDA(H), disengage the autopilot (if engaged).

It is recommended that pilot with the runway on his/ her side maintains visual contact with the runway while providing instructions to the other pilot. The PF should stay mostly “inside“and fly the vectors, speeds and altitudes provided. If the FO is PM, he/ she shall use the TMR on the PFD to assist in determination of turns while the Captain

as PF shall use the timer to the left of the flight instruments. When turning base and the “original PF“(the pilot who was PF during the initial phase of the approach) has the runway in sight, he/ she may take control and continue the approach and land.

NOTE

For circling procedures, DO NOT press the XFR key when transferring control temporarily as this will add to workload and could lead to errors.

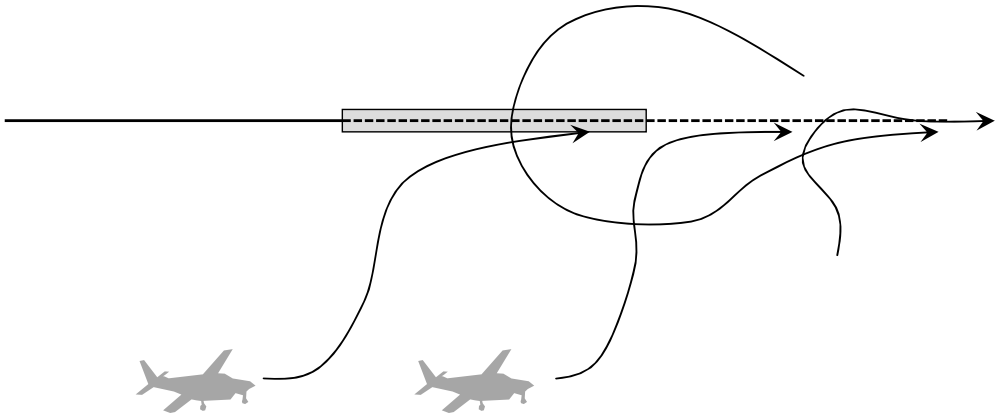
7.24.5 Missed Approach - Circling

If a missed approach is required at any time while circling, make a climbing turn in the shortest direction toward the landing runway. This may result in a turn greater than 180° to intercept the missed approach course. Continue the

turn until established on an intercept heading to the missed approach course corresponding to the instrument approach procedure just flown. Maintain the missed approach flap setting (20) until close-in maneuvering is completed.
Different patterns may be required to become established on the prescribed missed approach course. This depends on aircraft position at the time the missed approach is started. The following figure illustrates the maneuvering that may be required. This ensures the aircraft remains within the circling and missed approach obstruction clearance areas.

In the event that a missed approach must be accomplished from below the MDA(H), consideration should be given to selecting a flight path which assures safe obstacle clearance until reaching an appropriate altitude on the specified missed approach path.

Figure 7-7 Circling Missed Approach



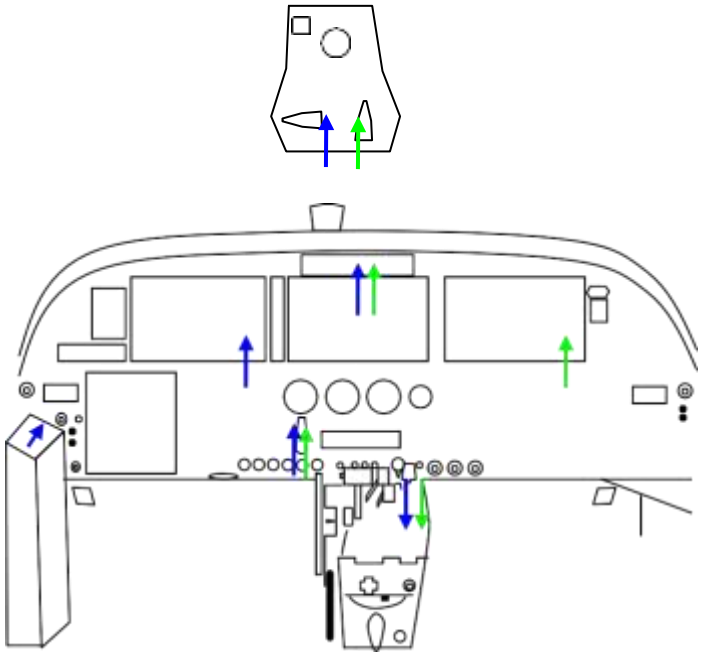
7.25 Visual Approach

Whenever a visual approach and landing is to be initiated or accepted the pilot must have the required visual meteorological conditions prior to descending below the MSA such that a visual circuit may be flown at all times with the airport runway in full unobstructed view of the (PF).

The visual approach must be backed up by all relevant navigational aids relative to any associated instrument approach if applicable. All minimum instrument approach altitudes must be respected.

An altitude of 1.000 ft above aerodrome elevation is used for the downwind leg for Caravan. On selection of flaps Full the finals checks shall be completed. To compensate for winds, half the wind gust speed, not to exceed 15 KIAS will be added to finals speed. Any adjustment to the glidepath should be made as early as possible to avoid high rates of descent close to the ground.

Figure 7-8 Finals Flow Diagram



7.26 Finals Flow Items

Captain:

1. Flaps..... Full (asrequired)
2. Inertial Separator ..... Bypass
3. Ignition Sw.....On
4. IGNITION ON CAS MSG ..... ON
5. Yaw Damper..... Off
6. Fuel Selectors ..... Confirm On Both
7. Groundspeed .....Check

First Officer:

1. Flaps..... Full (as required)
2. Inertial Separator. ..... Bypass
3. IGNITION ON CAS MSG ..... ON
4. Yaw Damper. ..... Off
5. Fuel Selectors ..... Confirm On Both
6. Groundspeed .....Check

7.27 Final Checklist

When landing flap is extended the final checks shall be initiated. The ONLY item the PF is to respond to is the flaps to allow for more concentration on flying the aircraft and not putting his/her head down during this critical phase of flight. He/she shall however, ensure the items called for are checked as practicable.

FINALS (C/R)

Carried out once the final landing flap selection has taken place.

1. Flaps ---------- B 30/As Req'd
2. Prop.....PM.....Max
3. Inertial Sep----------PM ---------- Bypass
4. Ignition.....PM.....On
5. YD.....PM.....Off
6. Airspeed / GS------PM ---------- Read

WARNING

Failure to ensure the Yaw Damper is disengaged prior to landing can result in loss of directional control on landing.

The Airspeed / Groundspeed check must be done at unattended fields and where wind conditions given by ATC may be doubtful to avoid landing with an unexpected high tail wind component.
The PF may also call for the wind component from the PFD to be read. Option 1 allows for direct headwind/ tailwind and crosswind readings.

7.28 Landing

As the threshold is crossed the power lever should slowly be reduced toward idle and the pitch attitude adjusted to effect a smooth touchdown on the main gear. The nose gear should be lowered to the runway before elevator control is lost. Immediately BETA range shall be selected, and if landing on a limiting runway, immediately select reverse. As soon as a safe stop is assured, the PF will move the power lever out of reverse to minimize debris damage to the propeller.

Once the aircraft is slowed to taxi speed the condition lever should be set to low idle. The PF shall place his/ her finger over the cutoff gate for the fuel condition

lever and then call for „low idle, flaps 20“. The PM shall then select low idle and flaps 20 and respond „low idle, flaps20“.

For all normal operations, landings are to be made with Flaps 30. On the last flight of the day, the flaps shall be selected UP.

CAUTION

Great care must be taken by the PM to avoid placing the condition in the CUTOFF position when moving it to LOW IDLE. If this ever happens, the condition lever MUST be left in the CUTOFF position and in no circumstance may be placed back into LOW IDLE because this will cause extensive engine damage.

7.29 Rejected Landing

Should it be necessary to carry out a rejected landing, the PF should announce “Go Around, set power, flaps 20” while simultaneously advancing the power lever toward takeoff power and rotating the aircraft to a normal takeoff attitude (initially 8° nose up). The PM shall ensure that maximum power is set and call “power set,” retract the flaps to 20 and call “flaps 20.”
After a safe altitude is reached and all obstacles cleared the flaps shall be retracted as per the normal schedule outlined in the normal take off.

After a Go Around the “Climb”, “Approach” and “Final” Checklists all need to be completed. The Captain may elect to fly the circuit with flaps set at 10 degrees.

7.30 When Clear of Runway Checklist

This checklist is to be completed when the aircraft is clear of the runway or has reached taxi speed at airports with no ramp. Although the following items should be automatic, crews must ensure they are completed by use of the checklist.

CLEAR OF RUNWAY

Carried out once the aircraft has cleared the runway or once the aircraft has reached taxi speed (at airfields without ramps).

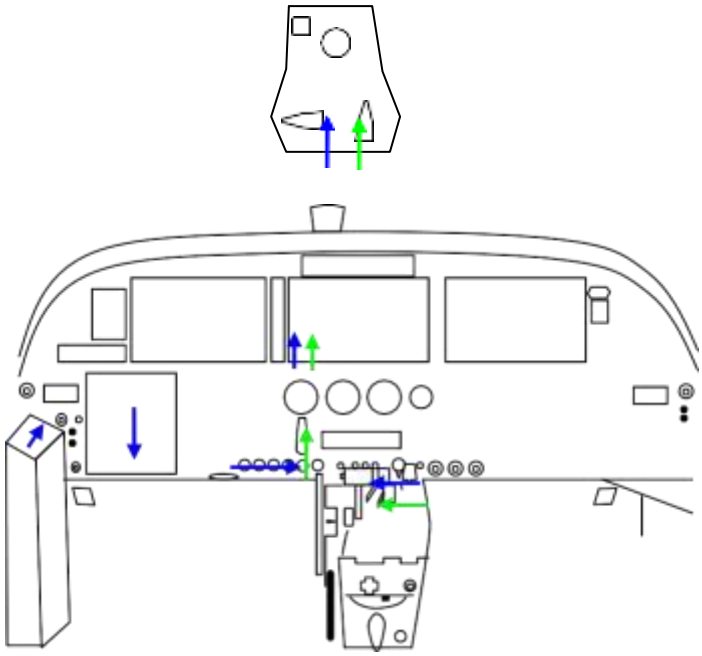
1. XPDR.....PM.....GND
2. WXRadar----------PM Stby

7.31 Engine Cooldown

The aircraft is to be stabilized at Low Idle for 1 minute prior to engine shutdown. If the aircraft can be taxied to the parking position without the power lever coming out of the idle detent then this time may be counted towards the one minute. By stabilizing the engine for 1 minute, all the inner engine components can achieve a similar temperature thus reducing engine maintenance costs.

8 After Flight

Figure 8-1Shutdown Flow Diagram



8.1 Shutdown Flow Items

1. Park Brake.....Set
2. Air Conditioner. ..... Ventilate
3. Pitot/Static Heat.....OFF
4. Standby Power ..... Off
5. Fuel Condition Lever .....Cutoff
6. Propeller Control Lever ..... Feather
7. Boost Pump ..... Off (when Ng below 6%)
8. Fuel Quantity.....Check (note in tech log)
9. Avionics Switches..... Off
10. One Fuel Tank Selector ..... Off

11. Battery Switch ..... Off
12. Other Fuel Tank Selector..... Off

CAUTION

To prevent damage to the propeller, the fuel condition lever shall first be selected to cutoff followed immediately by the prop lever to feather.

8.2 Shut Down Checklist

SHUTDOWN (C)

Carried out independently by the Captain after the engine has been shutdown and the shutdown flows have been completed.

1. Parking Brake ----------Set
2. Flaps.....20 / UP
3. Standby Power ------Off
4. Avionics----------Off
5. Condition Lever---------- Cutoff
6. Air Conditioner----------Off
7. Fuel Selectors ---------- Both Off
8. Inertial Separator---------- Normal
9. Battery Switch----------Off

8.3 Post Flight

When no ground crew is present, the First Officer shall leave his seat after the engine exhaust has dissipated and promptly insert the tailstand. Once inserted the First Officer shall open the passenger door and supervise the unloading of passengers and offer assistance where required.

The Captain must remain seated until the tail stand is placed, should exit the aircraft after the last passenger has disembarked to assist with unloading. Exception if carrying VIP passengers the Captain should leave his seat as soon as the tail stand is placed and be standing by for the disembarking passengers. Before leaving the aircraft after the last flight of the day when away from main maintenance base (or anytime when leaving the

aircraft unattended) the Captain shall ensure that the following has been completed:

- Chocks set
- Control Lock inserted
- Rudder Gust Lock engaged
- Engine intake and oil cooler inlet covers placed (when ITT is off scale).
- Pitot covers placed
- Tail stand removed
- All doors and engine cowlings locked.

Windscreen shades can cause damage to the windscreen and shall not be used.

8.4 Events Requiring Special Inspection

The following events require a special inspection before the next flight:

- Hard Landing.
- Lightning Strike.
- Prop Strike or sudden engine stoppage.
- Bird/ Animal Strike.
- Severe Turbulence.
- Exceeding Operational Limits
- An ETM PREV EXCEED CAS alert message

Maintenance must be notified of any such events immediately.

8.5 Events requiring a mandatory safety report

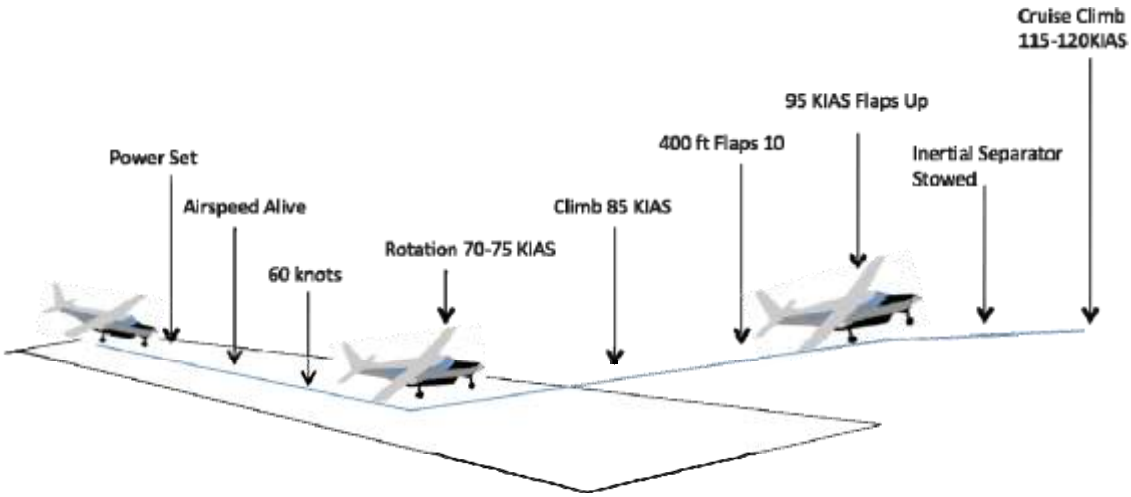
Any time the Captain or FO deem it necessary, they shall without hesitation file a safety report. Here are some mandatory events requiring a safety report:

- Break down in CRM/ Lack of SOP's
- Flights that do not reach destination/ require a diversion
- Crew member taking control from another
- Any time the emergency button is pressed other than training or an approved company test
- If a flight lands anywhere with less than 400 lbs of fuel
- Communication problem between A/C and ATC/ATS
- Any traffic conflict with less than 3nm horizontal and/or 700 ft vertical clearance
- Aborted takeoff or landings due to obstacles, animals, or persons on the runway

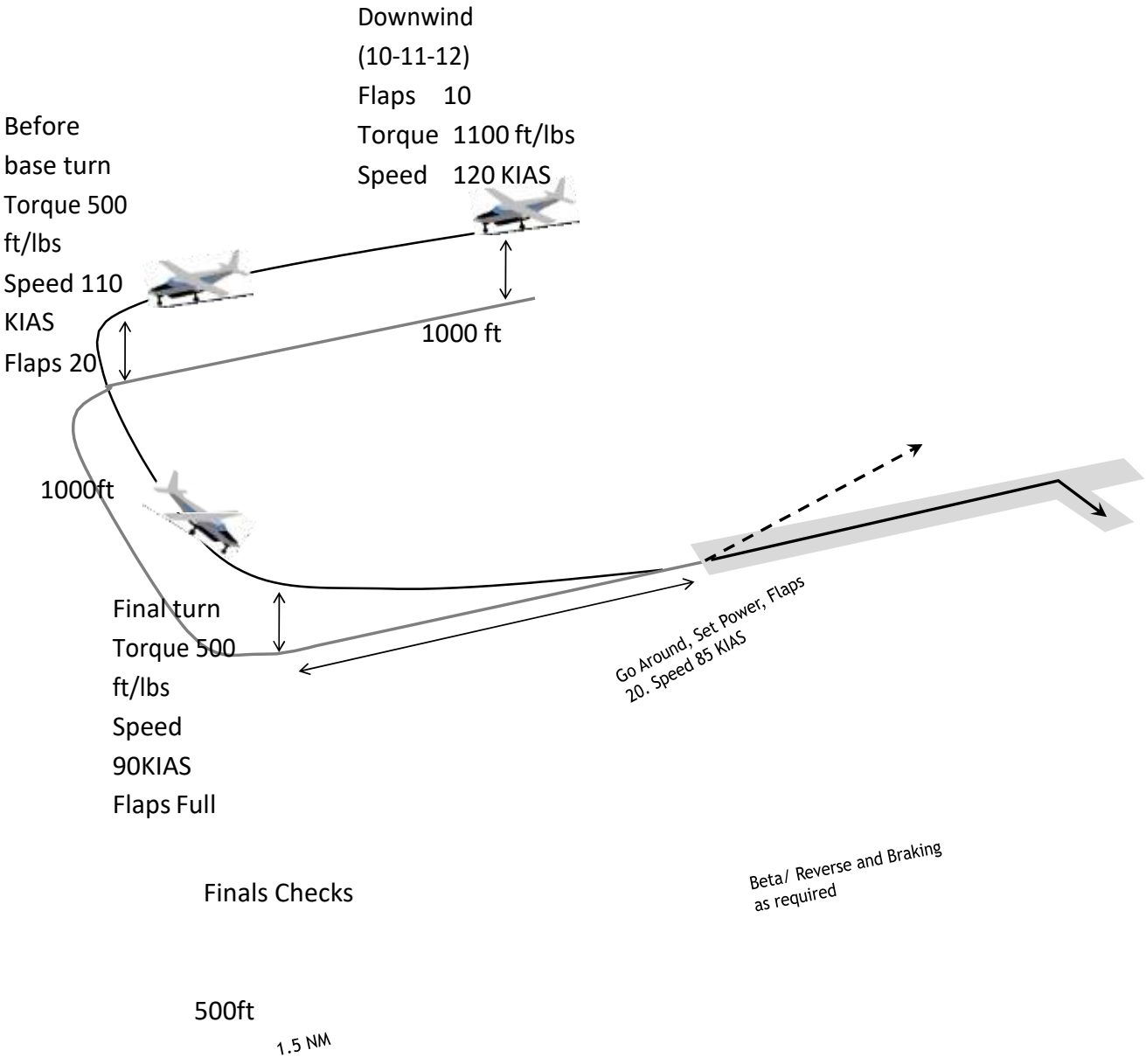
- Any time the A/C has a serious aft C of G on the ground where the nosewheel lifts off the ground
- Any failure of A/C equipment which requires use of the MEL to continue flying, or renders the aircraft unairworthy before repairs.
- Vehicles driving/ parking dangerously close to aircraft on ground
- People coming within close contact to the aircraft while the engine is running
- TAWS audible warning in flight
- Crew member illness or Incapacitation
- Injury to any crew member, passenger or ground crew.
- Bird Strike
- Any go around/ missed approach
- Any use of the „Captain you must listen“ phraseology

9 Profiles

9.1 Normal Takeoff



9.2 Visual Traffic Pattern

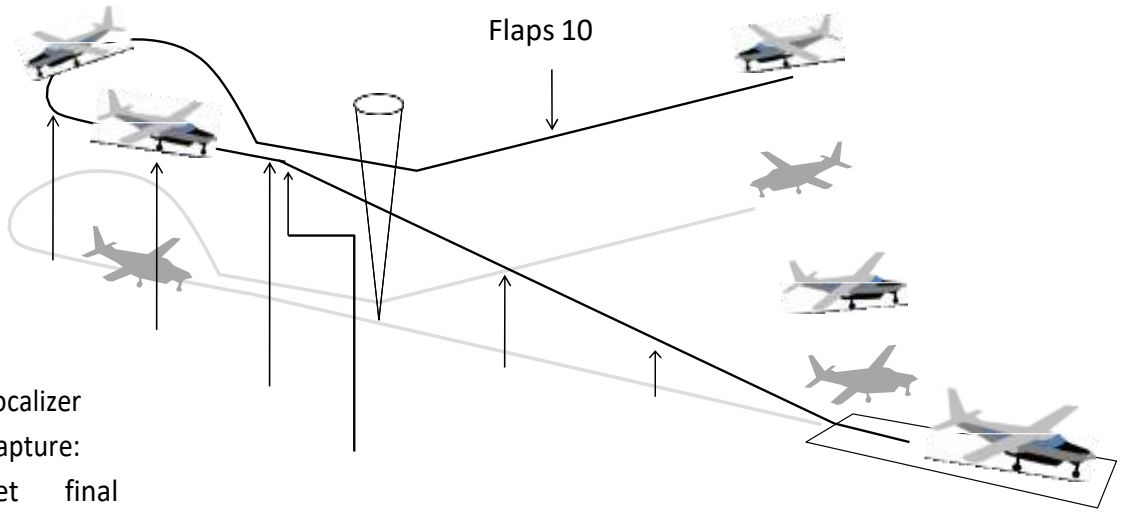


9.3 ILS Approach

Intercept heading: Ensure correct sensing, identify ILS, arm approach mode

Approaching Fix
Reduce speed <120 KIAS
Flaps 10

Inbound to fix or on vectors: Prop Full Forward
Approach checks complete



Localizer Capture: Set final approach course heading

Glideslope Alive: Speed < 110 KIAS
Flaps 20

One dot above: Speed <100 KIAS
Flaps

Full*

Glideslope capture: Set missed approach

Announce “land” or “go around, set power, flaps 20”

Check glideslope crossing height Minimums:

*Max flaps 20 when using KFC 225 autopilot

altitude

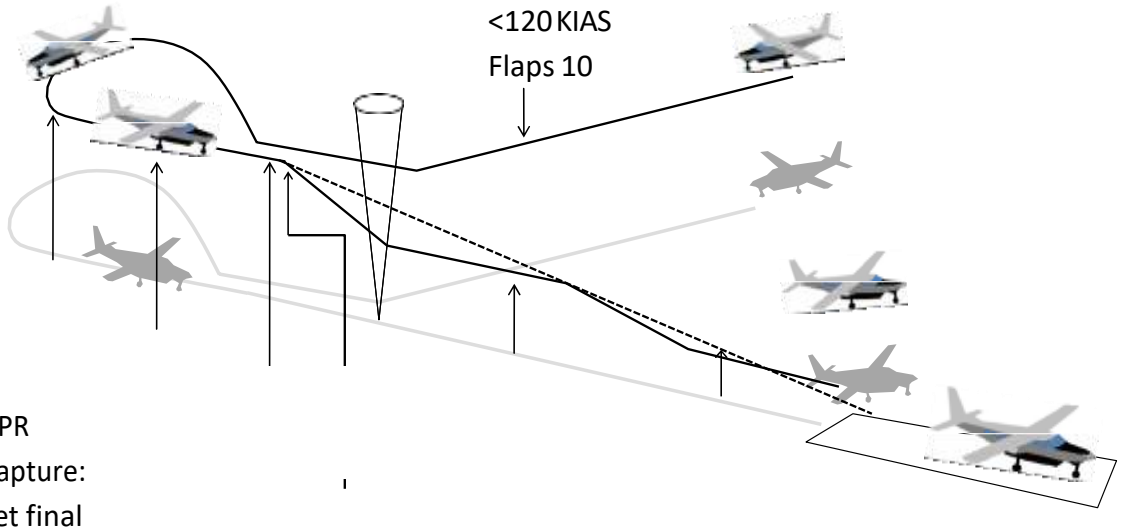
Finals Checks

9.4 Non-Precision Approach

Intercept heading: Ensure correct sensing, identify Navaid, confirm final approach course set, arm approach mode

Approaching Fix Torque 1100ft/lbs Reduce speed <120 KIAS Flaps 10

Inbound to fix or on vectors: Prop Full Forward Approach checks complete



APR Capture: Set final approach course heading

With ALT hold before

t h e

F A F set MDA

*Max flaps 20 when using KFC 225 autopilot	Approaching FAF (1.0 NM) : Flaps 20 Torque 500ft/lbs Speed 90 KIAS At FAF(0.3NM to FAF): Flaps Full* Select VS and descend according to the published constant descent rate Carry out Finals Checks	PM: Call out each restriction and when each restriction has been made ie. “next restriction 3200ft @ 7 miles.” “Approaching 7 miles @ 3300 ft, restriction made, next altitude 2400 @ 3 miles”	At MDA +50: If not visual carry out the missed approach proce

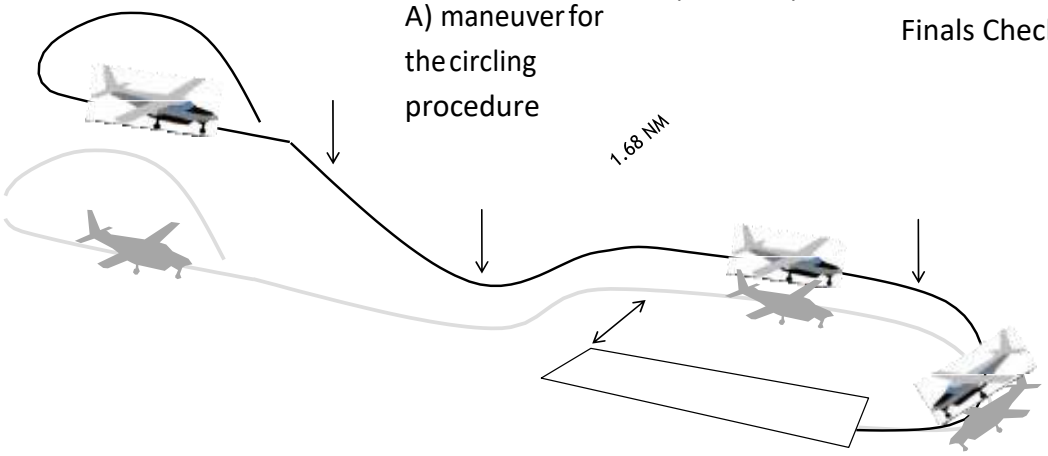
9.5 Circling Approach

Configuration
Flaps 20 Prop
full forward
Speed <100
KIAS

At circling MDA level off and when within 1.68 miles of the threshold (Cat A) maneuver for the circling procedure

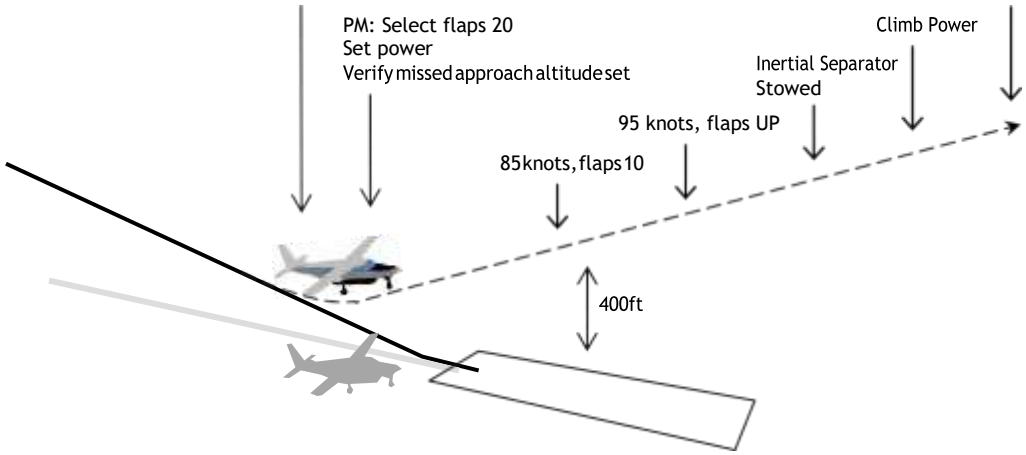
Stay within the circling radius (1.68 NM)

Abeam the landing threshold Flaps Full
Finals Checks



9.6 Go-Around / Missed Approach

PF: "go around, set power, flaps 20" Advance power towards 1800 ft/lbs Pitch nose 8° up Adjust pitch for 85 knots	Low workload After Takeoff Checklist followed by Climb Checklist



9.7 Go-Around / Missed Approach using flight director

PF: "go around, set power, flaps 20"
*Press TOGA button**
Advance power towards 1800 ft/lbs
Pitch nose 8° up *into flight director*
Press CWS to adjust pitch for 85 knots and to change FD vertical mode from GA to PIT

Low workload
After Takeoff Checklist followed by Climb Checklist

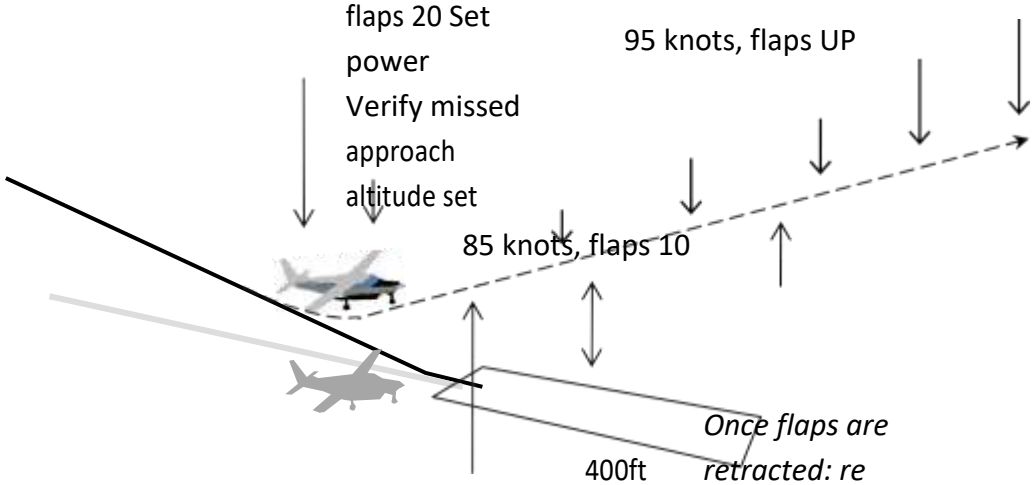
Climb Power

Inertial Separator Stowed

PM: Select flaps 20 Set power
Verify missed approach altitude set

95 knots, flaps UP

85 knots, flaps 10



400ft

Once flaps are retracted: re engage autopilot if desired

*The TOGA button disengages the Autopilot

Captain: "Heading and ALT arm" FO: Select HDG and arm ALT

10 Abnormal and Emergency Procedures

10.1 Types of Checks

10.1.1 Immediate Action

Procedures found on the emergency checklist which are BOLD FACED type are immediate action items which should be committed to memory.

10.1.2 Checklist Items

Follow up checks carried out with reference to the emergency checklist.

10.2 PF and PM Duties During An Emergency Situation

The following information is to supplement information already available in the amplified procedures of Section 3. It gives suggestions for flight procedures and crew coordination for selected emergencies.. The Captain; however, has the overall authority as to how non-normal situations are handled.

NOTE

The most important thing to remember is to Aviate, Navigate, Communicate in that order.

Aviate

1) Fly the aircraft!
   a) Normally PF will continue flying at discretion of the Captain.
   b) Consider using the Autopilot if available to assist in reducing workload.
2) Identify the problem
   a) Most checklists correspond to a CAS message. A CAS message is the cue to select and do the checklist. Others do not have annunciators, which is why familiarity with all checklists is so important.

NOTE

All system alerts must be acknowledged and read aloud. For Warning Alerts you must acknowledge the alert by pressing the WARNING softkey to cancel the continuous chime.

3) Announce the problem

a) Either pilot shall clearly announce the CAS message or unannunciated item (such as smoke in thecabin).

b) Ie.. "RESERVOIR FUEL LOW" (Red RESERVOIR FUEL LOW CAS message ON)"

NOTE

Even CAS messages can give you incorrect information due to sensor faults etc. Before actioning any checklist; investigation (time permitting) is essential. Ie. ENGINE FIRE CAS MESSAGE.

4) Call for the appropriate memory items/ checklist timepermitting

NOTE

When actioning checklist items remember that you should action only those items in your area of responsibility as outlined in Section 3.

- The PF shall then call for the appropriate Memory Items followed by the appropriate checklist. If there are no memory items he/ she shall call for the checklist.
- Ie. PF: "Fuel Flow Interruption MemoryItems."
- The PM shall then call out the Memory Items.
- PM: "Fuel Tank Selectors, Left on Right on," then place his/ her hand on the fuel tank selectors, ensure they are on and repeat "Left On, Right On."
- PM:"Ignition Switch On," to which the Captain shall respond "On."
- PM: "Fuel Boost Switch On", Captain: "On."
- PM: "Memory Items Complete."
- The PF should check the actions of the PM wherever practicable.
- If an incorrect action is being made the other pilot shall call "Negative."
- When safe to do so the PF will call for the appropriate checklist. When actioning

the checklist the PM shall announce the name of the checklist

- PM: "Fuel Flow Interruption Checklist"
- The PM shall then read all items as a challenge (including memory items in BOLD) and the pilot whose item is located in his/ her area of responsibility shall respond as outlined above.

Navigate

1) Keep the aircraft away from Terrain

a) If in IMC

i) make use of TAWS (select MAP page on MFD)

ii) Climb to safe altitude (if possible)

2) Find a landing site

a) Engine Failure

i) Are there any airports nearby?

ii) Any emergency landing sites?

iii) Any terrain between us and the landing site?

iv) Any islands nearby (for overwater flights)?_

v) Any waypoint I can program in the GPS?

vi) How far can we glide?

vii) How much time do we have? (do we have time for checklists?)

b) Engine Operating

i) What is the nature or severity of the problem? (how fast do we need to get on the ground)

ii) What are the nearest airports?

iii) Do I have enough Fuel to divert to selected airfield?

iv) What is the terrain like on my diversion route?

v) What is the weather like enroute and at my diversion airport? (Does the failure affect ability to operate IFR?)

vi) Are emergency medical services available? (passenger illness)

vii) Once I land can I dispatch under the MEL? (time permitting, check MEL)

viii) Is there maintenance or parts available at chosen airport?

ix) Are there other aircraft or crew at the diversion airport who can operate the flight?

Communicate

1) Crewmembers
   a) SOP callouts
   b) share your mental model
   c) What is the problem (see CLEAR model below)
2) ATC/ Other aircraft
   a) Mayday/ PAN PAN call
   b) Follow NITS format
      i) Nature of the problem
      ii) Intentions
      iii) Time (ETA or time to outcome)
      iv) Special items

3) Company
a) Spidertrack – Emergency button required?
i) Make a call or send a message time permitting?
b) Call on company frequency

4) Passengers
a) The PM shall brief the passengers on any emergency situation.
b) If time is not an issue it shall preferably made by the Captain
c) Use NITS format
d) Be honest but brief; do not give too much information

Use the "CLEAR" decision making model C- Clarify the Problem
L- Look for solutions
E- Evaluate each suggestion Is it safe?
Is it legal?
Can we live with our decision?
Can the company live with our decision? Can the passengers live with our decision?
A- Act on the best one
R- Review the decision made

10.3 Emergency Phraseology "Captain you must listen"

When this exact phraseology is used by another flight crew member the Captain must discontinue his present course of action and follow the Desired Course of Action, unless the Captain determines that to do so would jeopardize the aircraft and its occupants.

An example being that during approach the profile has continued to be high and fast. The continued observation of events has been discussed, but the Captain has taken no corrective action to the observations of the crew member. This continues past the stable approach concept"floor."

At this point the FO should then say "Captain you must listen, go around." When this has been said the captain MUST initiate a go around unless the go around itself is considered to jeopardize safety worse than continuing an unstable approach. There cannot be any consideration if the go around is actually required once the emergency phrase has beenused.

When this emergency phrase has been used once, and no response from the Captain has been given, the Captain is to be considered incapacitated and the FO shall take control of the aircraft while stating "I have control."

This course of action is to enhance our CRM procedure's and make our decision making process clear and concise during critical phases of flight.

After such an event, a mandatory safety report is required, even if the Captain followed the advice and no control takeover was required.

10.4 TAWS Terrain Warnings

In VMC Conditions

If any terrain warning sounds in VMC conditions, the crew shall determine the cause for the warning, and visually avoid any terrain or obstacles. If applicable, the terrain warning may be inhibited if continued VMC flight is to be maintained.

WARNING

NEVER INHIBIT THE TERRAIN WARNING IN IMC CONDITIONS

In IMC Conditions

CAUTION TERRAIN	
Crew Coordination	
PF:	PM:
1. MAX Power	1. Ensure MAX Power set
2. Airspeed 72 KIAS or stall warning whichever occurs first (respect the stall warning)	2. CALL TURN DIRECTION
3. TURN LEFT/RIGHT TO AVOID TERRAIN WHILST CLIMBING	3. CALL OUT OMITTED ITEMS
4. DO NOT CHANGE CONFIGURATION	4. MONITOR DISPLAY AND RAD ALT (if installed) and call trends
5. CLIMB UNTIL ABOVE MSA OR VISUAL AND warnings stop.	

TERRAIN PULL UP	
Crew Coordination	
PF:	PM:
1. Disengage Autopilot	1. Ensure MAX Power set
2. Level Wings and simultaneously	2. CALL OUT OMITTED ITEMS
3. Airspeed 72 KIAS or stall warning whichever occurs first (respect the stall warning	3. MONITOR DISPLAY AND RAD ALT (if installed) and call trends
4. MAX Power	
5. DO NOT CHANGE CONFIGURATION	
6. CLIMB UNTIL ABOVE MSA OR VISUAL AND warnings stop.	
If climb is insufficient: increase power to the firewall and increase pitch to the stall warning immediately checking forward on the first sound of the stall, then repeat the procedure	

NOTE

A “Caution Terrain” warning may develop into a “Terrain Pull Up” warning. If this happens you must level your wings and carry out the “Terrain Pull Up” maneuver.

WARNING

Additionally the stall warning may occur before reaching 72 KIAS (Especially if the aircrafts wings are not level)

10.5 WINDSHEAR

To prevent a windshear accident from occurring, obey the following windshear rules.

- Avoidance
  - Visual Identification of severe weather
  - LLWAS (Low Level Windshear Alert System)
  - Other aircraft PIREP
  - Reported winds on the field
  - WX Radar
    - Before takeoff
    - On approach
  - GS monitoring
  - Brief windshear escape maneuver as part of “Threats.”
- Recognition
  - Indicated airspeed variations in excess of 15 knots
  - PM deviation callouts
  - Vertical speed excursions of 500 fpm or more
  - Glideslope deviation of one dot or more
  - Pitch attitude excursions of 5 degrees or more
  - Unusual power setting/ power lever position (normal fully configured approach power setting = 450 - 500 ft/ lbs)
  - Groundspeed variations
  - Heading Variations of 10 degrees or more

- Operating Procedures (next page)

WINDSHEAR	
Crew Coordination	
PF:	PM:
Either pilot announce "WINDSHEAR!"	
1. Disengage Autopilot	1. Ensure MAX Power set
2. Level Wings and simultaneously	2. CALL OUT OMITTED ITEMS
3. Airspeed 72 KIAS or stall warning whichever occurs first (respect the stall warning	3. Advise ATC "SNK WINDSHEAR minus 20 knots at 400 ft" *
4. MAX Power	4. MONITOR DISPLAY AND RAD ALT (if installed) and call trends
5. DO NOT CHANGE CONFIGURATION	
6. CLIMB UNTIL CLEAR OF WINDSHEAR (positive ROC) and terrain is not a factor. If climb is insufficient: increase power to the firewall and increase pitch to the stall warning immediately checking forward on the first sound of the stall, then repeat the procedure	

*NOTE

- Do not use the terms "negative" or "positive" when describing windshear.
- "Negative" has been incorrectly interpreted to mean no windshear on final.
- State loss, or gain of airspeed and the altitudes at which it was encountered.
- Pilots who are not able to report windshear in these specific terms are encouraged to make report in terms of the effect upon their aircraft.

TRAFFIC TRAFFIC	
Crew Coordination	
On Ground	
Crews shall look for and identify intruder traffic before lining up or taxiing on or across an active runway	
In Flight	
1. All forward lights - ON	Both pilots shall look outside to attempt to identify the traffic but shall not maneuver unless visual.
Reduce the range of the MFD or Garmin map display to gain a more accurate view of the intruder traffic.	