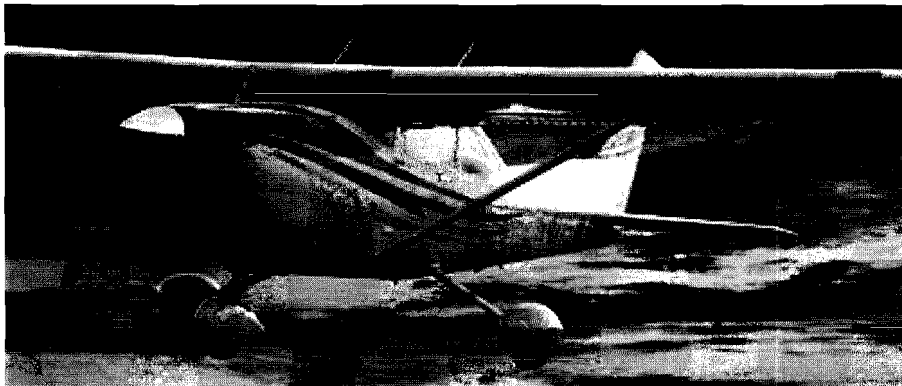




Pilots' Checklist

SkyLane

Model 182T NAV III AVIONICS OPTION



THIS CHECKLIST IS CURRENT WITH MODEL 182T NAV III POH FAA APPROVED U.S. PILOT'S OPERATING HANDBOOK REVISION 3, DATED 19 JULY, 2005. (PART NUMBER 182TPHAUS-03)

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WICHITA, KANSAS, USA

182TCLAUS-01

REVISION 1

19 JULY 2005

NOTICE

THE PILOT'S CHECKLIST SHOULD NOT BE USED UNTIL THE FLIGHT CREW HAS BECOME COMPLETELY FAMILIAR WITH THE AIRPLANE AND SYSTEMS. ALL NORMAL AND EMERGENCY PROCEDURE ITEMS AND COMPLETE PERFORMANCE IN THE PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL SHALL TAKE PRECEDENCE IN CASE OF CONFLICT.

REVISIONS

Changes and/or additions to this checklist will be covered by Owner Advisory revisions published by Cessna Aircraft Company. Owner Advisories are mailed automatically at no charge to owners of United States registered airplanes according to FAA records at the time of the issuance. Owner Advisories are mailed automatically to owners of other than United States registered airplanes, to the subscription address provided Cessna on an Owner Advisory Application.

NOTE

It is the responsibility of the owner to maintain this checklist in a current status when it is being used for operational purposes.

Owners should contact a Cessna Service Station whenever the revision status of their checklist is in question.

REVISED MATERIAL INDICATORS

A bar will extend the full length of deleted, new or revised text added on new or presently existing pages. This bar will be located adjacent to the applicable text in the outer margin of the page.

A bar located adjacent to the figure number in the outer margin will be used to indicate that the figure number only has changed.

An asterisk located at the end of a figure number will be used to indicate that an illustration has been revised or is all new material (Ex: Figure 4*).

A change bar in the footer will indicate a revision to the header/footer, a new page, format or spelling/grammar changes and/or that information has slipped to or from that page.

All revised pages will carry the revision number opposite the page number on the applicable page. A list of revisions is located at the beginning of the Log of Effective Pages.

NORMAL PROCEDURES

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AIRSPEEDS FOR NORMAL OPERATIONS

Unless otherwise noted, the following speeds are based on a maximum weight and may be used for any lesser weight.

TAKEOFF:

Normal Climb 70 - 80 KIAS
Short Field Takeoff, Flaps 20°, Speed at 50 Feet 58 KIAS

ENROUTE CLIMB, FLAPS UP:

Normal, Sea Level 85 - 95 KIAS
Best Rate-of-Climb, Sea Level 80 KIAS
Best Rate-of-Climb, 10,000 Feet 74 KIAS
Best Angle-of-Climb, Sea Level 65 KIAS
Best Angle-of-Climb, 10,000 Feet 68 KIAS

LANDING APPROACH:

Normal Approach, Flaps Up 70 - 80 KIAS
Normal Approach, Flaps Full 60 - 70 KIAS
Short Field Approach, Flaps Full. 60 KIAS

BALKED LANDING:

Maximum Power, Flaps 20° 55 KIAS

MAXIMUM RECOMMENDED TURBULENT AIR PENETRATION SPEED:

3100 POUNDS 110 KIAS
2600 POUNDS 101 KIAS
2100 POUNDS 91 KIAS

MAXIMUM DEMONSTRATED CROSSWIND VELOCITY:

Takeoff or Landing 15 KNOTS

All references to Sections throughout this checklist refer to the corresponding Section of the Pilot's Operating Handbook.

NORMAL PROCEDURES PREFLIGHT INSPECTION

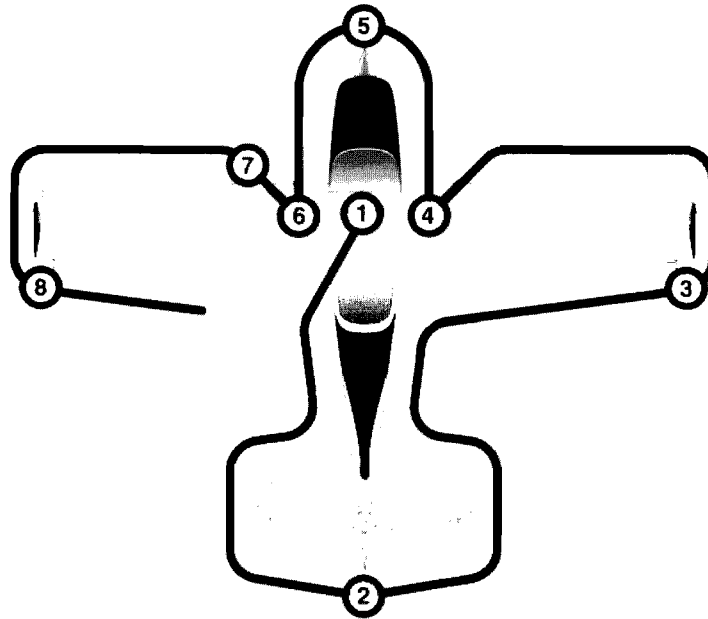


Figure 1

NOTE

Visually check airplane for general condition during walk-around inspection. Airplane should be parked in a normal ground attitude (refer to Figure 1-1 in the POH) to ensure that fuel drain valves allow for accurate sampling. Use of the refueling steps and assist handles will simplify access to the upper wing surfaces for visual checks and refueling operations. In cold weather, remove even small accumulations of frost, ice or snow from wing, tail and control surfaces. Also, make sure that control surfaces contain no internal accumulations of ice or debris. Prior to flight, check that pitot heater is warm to touch within 30 seconds with battery and pitot heat switches on. If a night flight is planned, check operation of all lights, and make sure a flashlight is available.

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PREFLIGHT INSPECTION (Continued)**1 CABIN**

1. Pitot Tube Cover REMOVE (Check for pitot blockage)
2. Pilots' Operating Handbook ACCESSIBLE TO PILOT
3. Garmin G1000™ Cockpit
Reference Guide ACCESSIBLE TO PILOT
4. Airplane Weight and Balance CHECKED
5. Parking Brake SET
6. Control Wheel Lock REMOVE

WARNING

WHEN THE MASTER SWITCH IS ON, USING AN EXTERNAL POWER SOURCE, OR MANUALLY ROTATING THE PROPELLER, TREAT THE PROPELLER AS IF THE MAGNETOS SWITCH WERE ON. DO NOT STAND, NOR ALLOW ANYONE ELSE TO STAND, WITHIN THE ARC OF THE PROPELLER SINCE A LOOSE OR BROKEN WIRE, OR A COMPONENT MALFUNCTION, COULD CAUSE THE ENGINE TO START.

7. MAGNETOS Switch OFF
8. AVIONICS Switch (BUS 1 and BUS 2) OFF
9. MASTER Switch (ALT and BAT) ON
10. Primary Flight Display (PFD) VERIFY ON
11. FUEL QTY (L and R) CHECK
12. LOW FUEL L and LOW FUEL R Annunciators VERIFY OFF
13. OIL PRESSURE Annunciator VERIFY ON
14. LOW VOLTS Annunciator VERIFY ON
15. LOW VACUUM Annunciator VERIFY ON
16. AVIONICS Switch (BUS 1) ON
17. Forward Avionics Fan CHECK AUDIBLY FOR OPERATION
18. AVIONICS Switch (BUS 1) OFF
19. AVIONICS Switch (BUS 2) ON

(Continued Next Page)

PREFLIGHT INSPECTION (Continued)**① CABIN (Continued)**

- 20. Aft Avionics Fan CHECK AUDIBLY FOR OPERATION
- 21. AVIONICS Switch (BUS 2). OFF
- 22. PITOT HEAT Switch ON
(Carefully check that pitot tube is warm
to the touch within 30 seconds)
- 23. Stall Warning System CHECK
(Gently move the stall vane upward and
verify that the stall warning horn is heard)
- 24. PITOT HEAT Switch OFF
- 25. MASTER Switch (ALT and BAT) OFF
- 26. Trim Controls TAKEOFF position
- 27. FUEL SELECTOR Valve BOTH
- 28. ALT STATIC AIR Valve. OFF
- 29. Fire Extinguisher VERIFY gage green arc

② EMPENNAGE

- 1. Baggage Compartment Door CHECK latched, lock with key
- 2. Rudder Gust Lock (if installed). REMOVE
- 3. Tail Tiedown. DISCONNECT
- 4. Control Surfaces . . . CHECK for freedom of movement and security
- 5. Trim Tab. CHECK for security
- 6. Antennas CHECK for security of attachment
and general condition

③ RIGHT WING TRAILING EDGE

- 1. Aileron CHECK for freedom of movement and security
- 2. Flap CHECK for security and condition

(Continued Next Page)

PREFLIGHT INSPECTION (Continued)**4****RIGHT WING**

1. Wing Tiedown DISCONNECT
2. Fuel Tank Vent Opening CHECK for blockage
3. Main Wheel Tire CHECK
for proper inflation and general condition
(weather checks, tread depth and wear, etc.)
4. Fuel Tank Sump Quick Drain Valves DRAIN

Drain at least a cupful of fuel (using sampler cup) from each sump location to check for water, sediment, and proper fuel grade before each flight and after each refueling. If water is observed, take further samples until clear and then gently rock wings and lower tail to the ground to move any additional contaminants to the sump locations. Take repeated samples from **all** sump locations until **all** contamination has been removed. If contaminants are still present, refer to WARNING below and do not fly airplane.

NOTE

Collect all sampled fuel in a safe container. Dispose of the sampled fuel so that it does not cause a nuisance, hazard or damage to the environment.

WARNING

IF, AFTER REPEATED SAMPLES, EVIDENCE OF CONTAMINATION STILL EXISTS, THE AIRPLANE SHOULD NOT BE FLOWN. TANKS SHOULD BE DRAINED AND SYSTEM PURGED BY QUALIFIED MAINTENANCE PERSONNEL. ALL EVIDENCE OF CONTAMINATION MUST BE REMOVED BEFORE FLIGHT.

5. Fuel Quantity CHECK VISUALLY for desired level
6. Fuel Filler Cap SECURE and VENT UNOBSTRUCTED

(Continued Next Page)

PREFLIGHT INSPECTION (Continued)**5****NOSE**

1. Static Source Opening (right side of fuselage). CHECK
for blockage

2. Fuel Strainer Quick Drain Valve
(Located on lower right side of engine cowling) DRAIN

Drain at least a cupful of fuel (using sampler cup) from valve to check for water, sediment, and proper fuel grade before each flight and after each refueling. If water is observed, take further samples until clear and then gently rock wings and lower tail to the ground to move any additional contaminants to the sump locations. Take repeated samples from **all** sump locations, including the fuel return line and the fuel selector, until **all** contamination has been removed. If contaminants are still present, refer to WARNING below and do not fly airplane.

NOTE

Collect all sampled fuel in a safe container. Dispose of the sampled fuel so that it does not cause a nuisance, hazard or damage to the environment.

WARNING

IF, AFTER REPEATED SAMPLES, EVIDENCE OF CONTAMINATION STILL EXISTS, THE AIRPLANE SHOULD NOT BE FLOWN. TANKS SHOULD BE DRAINED AND SYSTEM PURGED BY QUALIFIED MAINTENANCE PERSONNEL. ALL EVIDENCE OF CONTAMINATION MUST BE REMOVED BEFORE FLIGHT.

3. Engine Oil Dipstick/Filler Cap CHECK OIL LEVEL
then check dipstick/filler cap **SECURE.**
Do not operate with less than 4 quarts.
Fill to 9 quarts for extended flight
4. Engine Cooling Air Inlets CLEAR of obstructions
5. Propeller and Spinner CHECK for nicks and security

(Continued Next Page)

PREFLIGHT INSPECTION (Continued)**5 NOSE (Continued)**

6. Air Filter CHECK for restrictions by dust or other foreign matter
7. Nosewheel Strut and Tire CHECK
for proper inflation of strut and general condition of tire
(weather checks, tread depth and wear, etc.)
8. Static Source Opening (left side of fuselage). CHECK
for blockage

6 LEFT WING

1. Wing Tiedown DISCONNECT
2. Fuel Quantity CHECK VISUALLY for desired level
3. Fuel Filler Cap SECURE and VENT UNOBSTRUCTED
4. Fuel Tank Sump Quick Drain Valves DRAIN

Drain at least a cupful of fuel (using sampler cup) from each sump location to check for water, sediment, and proper fuel grade before each flight and after each refueling. If water is observed, take further samples until clear and then gently rock wings and lower tail to the ground to move any additional contaminants to the sump locations. Take repeated samples from **all** sump locations until **all** contamination has been removed. If contaminants are still present, refer to WARNING below and do not fly airplane.

NOTE

Collect all sampled fuel in a safe container. Dispose of the sampled fuel so that it does not cause a nuisance, hazard or damage to the environment.

(Continued Next Page)

PREFLIGHT INSPECTION (Continued)**6 LEFT WING (Continued)****WARNING**

IF, AFTER REPEATED SAMPLES, EVIDENCE OF CONTAMINATION STILL EXISTS, THE AIRPLANE SHOULD NOT BE FLOWN. TANKS SHOULD BE DRAINED AND SYSTEM PURGED BY QUALIFIED MAINTENANCE PERSONNEL. ALL EVIDENCE OF CONTAMINATION MUST BE REMOVED BEFORE FLIGHT.

5. Main Wheel Tire CHECK
for proper inflation and general condition
(weather checks, tread depth and wear, etc.)

7 LEFT WING LEADING EDGE

1. Fuel Tank Vent Opening CHECK for blockage
2. Stall Warning Opening CHECK for blockage
3. Landing/Taxi Light(s) CHECK for condition and
cleanliness of cover

8 LEFT WING TRAILING EDGE

1. Aileron CHECK freedom of movement and security
2. Flap CHECK for security and condition

BEFORE STARTING ENGINE

1. Preflight Inspection COMPLETE
2. Passenger Briefing COMPLETE
3. Seats, Seat Belts, Shoulder Harnesses ADJUST and LOCK
(Make sure inertia reel locks)
4. Brakes TEST and SET
5. Circuit Breakers CHECK IN
6. Electrical Equipment OFF

CAUTION

THE AVIONICS SWITCH (BUS 1 AND BUS 2) MUST BE OFF DURING ENGINE START TO PREVENT POSSIBLE DAMAGE TO AVIONICS.

7. AVIONICS Switch (BUS 1 and BUS 2) OFF
8. Cowl Flaps OPEN
9. FUEL SELECTOR Valve BOTH

STARTING ENGINE (USING BATTERY)

1. Throttle Control OPEN 1/4 INCH
2. Propeller Control HIGH RPM
3. Mixture Control IDLE CUT OFF
4. STBY BATT Switch
 - a. TEST - (Hold for 20 seconds, verify that green TEST lamp does not go out)
 - b. ARM - (Verify that PFD comes on)
5. Engine Indicating System CHECK PARAMETERS
(Verify no red X's through ENGINE page indicators)
6. BUS E Volts VERIFY 24 VOLTS minimum
7. M BUS Volts VERIFY 0 VOLTS
8. BATT S Amps VERIFY DISCHARGE (negative)
9. STBY BATT Annunciator VERIFY ON
10. Propeller Area CLEAR
11. MASTER Switch (ALT and BAT) ON

(Continued Next Page)

STARTING ENGINE (USING BATTERY) (Continued)

NOTE

If engine is warm, omit priming procedure of steps 12, 13 and 14 below.

12. FUEL PUMP Switch ON

13. Mixture Control ADVANCE to FULL RICH
wait until fuel flow indication is stable,
then return to IDLE CUT OFF position

14. FUEL PUMP Switch. OFF

15. MAGNETOS Switch START release when engine starts

16. Mixture Control ADVANCE smoothly to FULL RICH
when engine starts

NOTE

If the engine floods, place the mixture control in the IDLE CUT OFF position, open the throttle control 1/2 to full, and engage the starter motor (START). When the engine starts, advance the mixture control to the FULL RICH position and retard the throttle control promptly.

17. OIL Pressure CHECK

18. AMPS (M BATT and BATT S). CHECK charge (positive)

19. LOW VOLTS Annunciator. VERIFY OFF

20. BEACON Light Switch. ON as required

21. NAV Lights Switch ON as required

22. AVIONICS Switch (BUS 1 and BUS 2). ON

STARTING ENGINE (USING EXTERNAL POWER)

1. Throttle Control OPEN 1/4 INCH
2. Propeller Control HIGH RPM
3. Mixture Control IDLE CUT OFF
4. STBY BATT Switch
 - a. TEST - (hold for 20 seconds, verify that green TEST lamp does not go out)
 - b. ARM - (verify that PFD comes on)
5. Engine Indication System CHECK PARAMETERS
(Verify no red X's through ENGINE page indicators)
6. BUS E Volts VERIFY 24 VOLTS minimum
7. M BUS Volts VERIFY 0 VOLTS
8. BATT S Amps VERIFY discharge (negative)
9. STBY BATT Annunciator VERIFY ON
10. Propeller Area CLEAR
11. AVIONICS Switch (BUS 1 and BUS 2) OFF
12. MASTER Switch (ALT and BAT) OFF
13. External Power CONNECT to ground power receptacle
14. MASTER Switch (ALT and BAT) ON
15. M BUS VOLTS VERIFY external power volts

NOTE

If engine is warm, omit priming procedure of steps 16, 17 and 18 below.

16. FUEL PUMP Switch ON
17. Mixture Control Advance to FULL RICH
wait until indicated fuel flow stabilizes,
then return to IDLE CUT OFF position
18. FUEL PUMP Switch OFF
19. MAGNETOS Switch START release when engine starts
20. Mixture Control ADVANCE smoothly to FULL RICH
when engine starts

(Continued Next Page)

STARTING ENGINE (USING EXTERNAL POWER)
(Continued)**NOTE**

If the engine floods, place the mixture control in the IDLE CUT OFF position, open the throttle control 1/2 to full, and engage the starter motor (START). When the engine starts, advance the mixture control to the FULL RICH position and retard the throttle control promptly.

- 21. OIL Pressure CHECK
- 22. Engine RPM REDUCE to idle
- 23. External Power. DISCONNECT from ground
power receptacle
- 24. Engine RPM INCREASE
(to approximately 1500 RPM for
several minutes to charge battery)
- 25. AMPS (M BATT and BATT S). CHECK charge (positive)
- 26. LOW VOLTS Annunciator. VERIFY OFF
- 27. Internal Power CHECK
 - a. MASTER Switch (ALT) OFF
 - b. TAXI and LANDING Light Switches ON
 - c. Engine RPM REDUCE to idle
 - d. MASTER Switch (ALT and BAT) ON
 - e. Engine RPM INCREASE
(to approximately 1500 RPM)
 - f. Main Battery (M BATT) Ammeter CHECK,
(Battery charging, Amps positive)
 - g. LOW VOLTAGE Annunciator VERIFY OFF

WARNING

**IF M BATT (MAIN BATTERY) DOES NOT SHOW + AMPS,
REMOVE THE MAIN BATTERY FROM THE AIRPLANE
AND SERVICE OR REPLACE THE BATTERY BEFORE
FLIGHT.**

- 28. BEACON Light Switch. ON as required
- 29. NAV Lights Switch ON as required
- 30. AVIONICS Switch (BUS 1 and BUS 2). ON

BEFORE TAKEOFF

1. Parking Brake SET
2. Passenger Seat Backs MOST UPRIGHT POSITION
3. Seats and Seat Belts CHECK SECURE
4. Cabin Doors CLOSED and LOCKED
5. Flight Controls FREE and CORRECT
6. Flight Instruments (PFD) CHECK (no red X's)
7. Altimeters:
 - a. PFD (BARO) SET
 - b. Standby Altimeter SET
 - c. KAP 140 Autopilot (BARO). SET
8. G1000 ALT SEL SET
9. KAP 140 Altitude Preselect SET

NOTE

There is no connection between the G1000 ALT SEL feature and the KAP 140 autopilot altitude preselect or altitude hold functions. G1000 and KAP 140 altitudes are set independently.

10. Standby Flight Instruments CHECK
11. Fuel Quantity CHECK, verify correct level

NOTE

Flight is not recommended when both fuel quantity indicators are in the yellow arc range.

12. Mixture Control RICH
13. FUEL SELECTOR Valve RECHECK BOTH
14. Elevator and Rudder Trim SET for takeoff
15. Manual Electric Trim (MET) CHECK
(Refer to the POH/AFM, Supplement 3 for Manual Electric Trim check procedures)

(Continued Next Page)

BEFORE TAKEOFF (Continued)**BEFORE
TAKEOFF**

16. Throttle Control 1800 RPM
 - a. MAGNETOS Switch CHECK
(RPM drop should not exceed 175 RPM on either
magneto or 50 RPM differential between magnetos)
 - b. Propeller Control CYCLE from high to low RPM;
return to high RPM (full in)
 - c. VAC Indicator CHECK
 - d. Engine Indicators CHECK
 - e. Ammeters and Voltmeters CHECK
17. Annunciators CHECK none illuminated
18. Throttle Control CHECK IDLE
19. Throttle Control 1000 RPM or LESS
20. Throttle Control Friction Lock. ADJUST
21. COM Frequency(s) SET
22. NAV Frequency(s) SET
23. FMS/GPS Flight Plan. AS DESIRED

NOTE

Check GPS2 availability on AUX-GPS STATUS page. No
annunciation is provided for loss of GPS2.

24. XPDR SET
25. CDI Softkey SELECT NAV Source

CAUTION

THE G1000 HSI SHOWS A COURSE DEVIATION
INDICATOR FOR THE SELECTED GPS, NAV 1 OR NAV 2
NAVIGATION SOURCE. THE G1000 HSI DOES NOT
PROVIDE A WARNING "FLAG" WHEN A VALID
NAVIGATION SIGNAL IS NOT BEING SUPPLIED TO THE
INDICATOR. WHEN A VALID NAVIGATION SIGNAL IS NOT
BEING SUPPLIED, THE COURSE DEVIATION BAR (D-
BAR) PART OF THE INDICATOR IS NOT SHOWN ON THE
HSI COMPASS CARD. THE MISSING D-BAR IS
CONSIDERED TO BE THE WARNING FLAG.

(Continued Next Page)

BEFORE TAKEOFF (Continued)

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WARNING

WHEN THE KAP 140 AUTOPILOT IS ENGAGED IN NAV, APR OR REV OPERATING MODES, IF THE HSI NAVIGATION SOURCE IS CHANGED FROM GPS TO NAV1, AUTOMATICALLY OR MANUALLY (USING THE CDI SOFTKEY), OR MANUALLY FROM NAV2 TO GPS, THE CHANGE WILL INTERRUPT THE NAVIGATION SIGNAL TO THE AUTOPILOT AND WILL CAUSE THE AUTOPILOT TO REVERT TO ROL MODE OPERATION. NO WARNING CHIME OR PFD ANNUNCIATION WILL BE PROVIDED. THE PREVIOUSLY SELECTED MODE SYMBOL SHOWN ON THE AUTOPILOT DISPLAY WILL BE FLASHING TO SHOW THE REVERSION TO ROL MODE OPERATION. IN ROL MODE, THE AUTOPILOT WILL ONLY KEEP THE WINGS LEVEL AND WILL NOT CORRECT THE AIRPLANE HEADING OR COURSE. SET THE HDG BUG TO THE CORRECT HEADING AND SELECT THE CORRECT NAVIGATION SOURCE ON THE HSI USING THE CDI SOFTKEY BEFORE ENGAGING THE AUTOPILOT IN ANY OTHER OPERATING MODE.

26. Autopilot OFF
27. Wing Flaps 0° - 20° (10° preferred)
28. Cowl Flaps OPEN
29. Cabin Windows CLOSED and LOCKED
30. STROBE Lights Switch ON
31. Brakes RELEASE

— **TAKEOFF**

NORMAL TAKEOFF

- 1. Wing Flaps 0° - 20° (10° preferred)
— 2. Throttle Control FULL
3. Propeller Control 2400 RPM
— 4. Mixture Control FULL RICH
(Above 5000 feet pressure altitude, lean for maximum RPM)
5. Elevator Control LIFT NOSEWHEEL AT 50 - 60 KIAS
— 6. Climb Airspeed 70 KIAS (FLAPS 20°)
80 KIAS (FLAPS 0°)
7. Wing Flaps RETRACT at safe altitude

— **SHORT FIELD TAKEOFF**

- 1. Wing Flaps 20°
— 2. Brakes APPLY
3. Throttle Control FULL
— 4. Propeller Control 2400 RPM
5. Mixture Control FULL RICH
(Above 5000 feet pressure altitude, lean for maximum RPM)
6. Brakes RELEASE
— 7. Elevator Control SLIGHTLY TAIL LOW
8. Climb Airspeed 58 KIAS
(Until all obstacles are cleared)
— 9. Wing Flaps RETRACT SLOWLY
(When airspeed is more than 70 KIAS)

ENROUTE CLIMB

NORMAL CLIMB

1. Airspeed 85 - 95 KIAS
2. Throttle Control 23 in.hg. or FULL
(if less than 23 in.hg.)
3. Propeller Control 2400 RPM
4. Mixture Control 15 GPH or FULL RICH
(if less than 15 GPH)
5. FUEL SELECTOR Valve BOTH
6. Cowl Flaps OPEN as required

MAXIMUM PERFORMANCE CLIMB

1. Airspeed 80 KIAS at Sea Level
74 KIAS at 10,000 Feet
2. Throttle Control FULL
3. Propeller Control 2400 RPM
4. Mixture Control FULL RICH or SET to Maximum Power
Fuel Flow placard value for altitude
5. FUEL SELECTOR Valve BOTH
6. Cowl Flaps OPEN

CRUISE

1. Power 15 - 23 in.hg. at 2000 - 2400 RPM
(No more than 80% power recommended)
2. Elevator and Rudder Trim ADJUST
3. Mixture Control LEAN
4. Cowl Flaps CLOSE
5. FMS/GPS REVIEW and BRIEF OBS/SUSP softkey
operation for hold pattern procedure (IFR)

DESCENT

1. Power AS DESIRED
2. Mixture ENRICHEN AS REQUIRED
(for smooth operation)
3. Cowl Flaps CLOSED
4. Altimeters:
 - a. PFD (BARO) SET
 - b. Standby Altimeter SET
 - c. KAP 140 Autopilot (BARO) SET
5. G1000 ALT SEL SET
6. KAP 140 Altitude Preselect SET

NOTE

There is no connection between the G1000 ALT SEL feature and the KAP 140 autopilot altitude preselect or altitude hold functions. G1000 and KAP 140 altitudes are set independently.

7. CDI Softkey SELECT NAV source
8. FMS/GPS REVIEW and BRIEF OBS/SUSP softkey
operation for holding pattern procedure (IFR)

CAUTION

THE G1000 HSI SHOWS A COURSE DEVIATION INDICATOR FOR THE SELECTED GPS, NAV 1 OR NAV 2 NAVIGATION SOURCE. THE G1000 HSI DOES NOT PROVIDE A WARNING "FLAG" WHEN A VALID NAVIGATION SIGNAL IS NOT BEING SUPPLIED TO THE INDICATOR. WHEN A VALID NAVIGATION SIGNAL IS NOT BEING SUPPLIED, THE COURSE DEVIATION BAR (D-BAR) PART OF THE INDICATOR IS NOT SHOWN ON THE HSI COMPASS CARD. THE MISSING D-BAR IS CONSIDERED TO BE THE WARNING FLAG.

(Continued Next Page)

DESCENT (Continued)**WARNING**

WHEN THE KAP 140 AUTOPILOT IS ENGAGED IN NAV, APR OR REV OPERATING MODES, IF THE HSI NAVIGATION SOURCE IS CHANGED FROM GPS TO NAV1, AUTOMATICALLY OR MANUALLY (USING THE CDI SOFTKEY), OR MANUALLY FROM NAV2 TO GPS, THE CHANGE WILL INTERRUPT THE NAVIGATION SIGNAL TO THE AUTOPILOT AND WILL CAUSE THE AUTOPILOT TO REVERT TO ROL MODE OPERATION. NO WARNING CHIME OR PFD ANNUNCIATION WILL BE PROVIDED. THE PREVIOUSLY SELECTED MODE SYMBOL SHOWN ON THE AUTOPILOT DISPLAY WILL BE FLASHING TO SHOW THE REVERSION TO ROL MODE OPERATION. IN ROL MODE, THE AUTOPILOT WILL ONLY KEEP THE WINGS LEVEL AND WILL NOT CORRECT THE AIRPLANE HEADING OR COURSE. SET THE HDG BUG TO THE CORRECT HEADING AND SELECT THE CORRECT NAVIGATION SOURCE ON THE HSI USING THE CDI SOFTKEY BEFORE ENGAGING THE AUTOPILOT IN ANY OTHER OPERATING MODE.

9. FUEL SELECTOR Valve BOTH
10. Wing Flaps AS DESIRED
 - (0° - 10° below 140 KIAS)
 - (10° - 20° below 120 KIAS)
 - (20° - FULL below 100 KIAS)

BEFORE LANDING

1. Pilot and Passenger Seat Backs MOST UPRIGHT POSITION
2. Seats and Seat Belts SECURED and LOCKED
3. FUEL SELECTOR Valve BOTH
4. Mixture Control RICH
5. Propeller Control HIGH RPM
6. LANDING and TAXI Light Switches ON
7. Autopilot OFF

—

LANDING

—

NORMAL LANDING

- 1. Airspeed 70 - 80 KIAS (Flaps UP)
- 2. Wing Flaps AS DESIRED
(0° - 10° below 140 KIAS)
(10° - 20° below 120 KIAS)
(20° - FULL below 100 KIAS)
- 3. Airspeed 60 - 70 KIAS (Flaps FULL)
- 4. Trim ADJUST
- 5. Touchdown MAIN WHEELS FIRST
- 6. Landing Roll LOWER NOSEWHEEL GENTLY
- 7. Braking AS REQUIRED

LANDING

—

SHORT FIELD LANDING

- 1. Airspeed 70 - 80 KIAS (Flaps UP)
- 2. Wing Flaps FULL (below 100 KIAS)
- 3. Power REDUCE TO IDLE
(As obstacle is cleared)
- 4. Airspeed 60 KIAS (until flare)
- 5. Trim ADJUST
- 6. Touchdown MAIN WHEELS FIRST
- 7. Brakes APPLY HEAVILY

—

BALKED LANDING

- 1. Power FULL THROTTLE and 2400 RPM
- 2. Wing Flaps RETRACT TO 20°
- 3. Climb Speed 55 KIAS
- 4. Wing Flaps RETRACT SLOWLY
(After reaching a safe altitude and 70 KIAS)
- 5. Cowl Flaps OPEN

AFTER LANDING

—

1. Wing Flaps UP
2. Cowl Flaps OPEN
-

SECURING AIRPLANE

—

1. Parking Brake SET
2. Throttle Control IDLE
3. Electrical Equipment OFF
4. AVIONICS Switch (BUS 1 and BUS 2) OFF
5. Mixture Control IDLE CUT OFF
6. MAGNETOS Switch OFF
7. MASTER Switch (ALT and BAT) OFF
8. STBY BATT Switch OFF
9. Control Lock INSTALL
10. FUEL SELECTOR Valve LEFT or RIGHT
- (To prevent crossfeeding between tanks)
-
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EMERGENCY PROCEDURES

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AIRSPEEDS

AIRSPEEDS FOR EMERGENCY OPERATIONS

ENGINE FAILURE AFTER TAKEOFF

Wing Flaps Up 75 KIAS
Wing Flaps 10° - FULL 70 KIAS

MANEUVERING SPEED

3100 POUNDS 110 KIAS
2600 POUNDS 101 KIAS
2100 POUNDS 91 KIAS

MAXIMUM GLIDE

3100 POUNDS 76 KIAS
2600 POUNDS 70 KIAS
2100 POUNDS 58 KIAS

PRECAUTIONARY LANDING WITH ENGINE POWER 70 KIAS

LANDING WITHOUT ENGINE POWER

Wing Flaps Up 75 KIAS
Wing Flaps 10° - FULL 70 KIAS

**ENGINE FAILURE DURING FLIGHT
(RESTART PROCEDURES)**

1. Airspeed 76 KIAS (best glide speed)
2. FUEL SELECTOR Valve BOTH
3. FUEL PUMP Switch ON
4. Mixture Control RICH (if restart has not occurred)
5. MAGNETOS Switch BOTH (or START if propeller is stopped)

NOTE

If propeller is windmilling, engine will restart automatically within a few seconds. If propeller has stopped (possible at low speeds), turn MAGNETOS switch to START, advance throttle slowly from idle, and lean the mixture from full rich as required to obtain smooth operation.

6. FUEL PUMP Switch. OFF

NOTE

If the indicated fuel flow (FFLOW GPH) immediately drops to zero, a sign of failure of the engine-driven fuel pump, return the FUEL PUMP Switch to the ON position.

FORCED LANDINGS

EMERGENCY LANDING WITHOUT ENGINE POWER

1. Passenger Seat Backs

MOST UPRIGHT POSITION

2. Seats and Seat Belts

SECURE

3. Airspeed

75 KIAS (Flaps UP)

- 70 KIAS (Flaps 10° - FULL)

4. Mixture Control

IDLE CUT OFF

5. FUEL SELECTOR Valve

PUSH DOWN and ROTATE TO OFF

6. MAGNETOS Switch.

OFF

7. Wing Flaps

AS REQUIRED

- (FULL recommended)

8. STBY BATT Switch

OFF

9. MASTER Switch (ALT and BAT)

OFF

- (when landing is assured)

10. Doors

UNLATCH PRIOR TO TOUCHDOWN

11. Touchdown

SLIGHTLY TAIL LOW

12. Brakes

APPLY HEAVILY

PRECAUTIONARY LANDING WITH ENGINE POWER

1. Passenger Seat Backs

MOST UPRIGHT POSITION

2. Seats and Seat Belts

SECURE

3. Airspeed

75 KIAS

4. Wing Flaps

20°

5. Selected Field

FLY OVER

- (noting terrain and obstructions)

6. Wing Flaps

FULL (on final approach)

7. Airspeed

70 KIAS

8. STBY BATT Switch

OFF

9. MASTER Switch (ALT and BAT)

OFF

10. Doors

UNLATCH PRIOR TO TOUCHDOWN

11. Touchdown

SLIGHTLY TAIL LOW

12. Mixture Control

IDLE CUT OFF

13. MAGNETOS Switch.

OFF

14. Brakes

APPLY HEAVILY

DITCHING

1. Radio TRANSMIT MAYDAY on 121.5 MHZ,
(Give Location, Intentions and SQUAWK 7700)
2. Heavy Objects (in baggage area) SECURE OR JETTISON
(if possible)
3. Passenger Seat Backs MOST UPRIGHT POSITION
4. Seats and Seat Belts SECURE
5. Wing Flaps 20° - FULL
6. Power. ESTABLISH 300 FT/MIN DESCENT AT 65 KIAS

NOTE

If no power is available, approach at 70 KIAS with Flaps UP
or at 65 KIAS with Flaps 10°.

7. Approach
 High Winds, Heavy Seas INTO THE WIND
 Light Winds, Heavy Swells PARALLEL TO SWELLS
8. Cabin Doors UNLATCH
9. Touchdown LEVEL ATTITUDE AT ESTABLISHED
 RATE-OF-DESCENT
10. Face CUSHION at touchdown with folded coat
11. ELT ACTIVATE
12. Airplane EVACUATE THROUGH CABIN DOORS
 If necessary, open window and flood cabin to equalize pressure so
 doors can be opened.
13. Life Vests and Raft INFLATE WHEN CLEAR OF AIRPLANE

FIRES

DURING START ON GROUND

1. **MAGNETOS Switch** **START**
(Continue cranking to start the engine)

IF ENGINE STARTS

2. Power 1700 RPM for a few minutes
3. Engine SHUT DOWN and inspect for damage

IF ENGINE FAILS TO START

2. **Throttle Control** **FULL OPEN**
3. **Mixture Control** **IDLE CUT OFF**
4. **MAGNETOS Switch** **START (continue cranking)**
5. **FUEL SELECTOR Valve** **PUSH DOWN and ROTATE TO OFF**
6. **FUEL PUMP Switch** **OFF**
7. **MAGNETOS Switch** **OFF**
8. **STBY BATT Switch** **OFF**
9. **MASTER Switch (ALT and BAT)** **OFF**
10. Engine SECURE
11. Parking Brake RELEASE
12. Fire Extinguisher OBTAIN
(Have ground attendants obtain if not installed)
13. Airplane EVACUATE
14. Fire EXTINGUISH using fire extinguisher,
wool blanket, or dirt
15. Fire Damage INSPECT
(Repair damage or replace damaged components
or wiring before conducting another flight)

ENGINE FIRE IN FLIGHT

1. Mixture Control IDLE CUT OFF
2. FUEL SELECTOR Valve PUSH DOWN and ROTATE to OFF
3. FUEL PUMP Switch OFF
4. STBY BATT Switch OFF
5. MASTER Switch (ALT and BAT) OFF
6. Cabin Heat and Air OFF (except overhead vents)
7. Airspeed 100 KIAS
(If fire is not extinguished, increase glide speed to find an airspeed, within airspeed limitations, which will provide an incombustible mixture)
8. Forced Landing EXECUTE
(Refer to EMERGENCY LANDING WITHOUT ENGINE POWER, page E-6)

ELECTRICAL FIRE IN FLIGHT

1. **STBY BATT Switch** **OFF**
2. **MASTER Switch (ALT and BAT)** **OFF**
3. **Vents/Cabin Air/Heat** **CLOSED**
4. **Fire Extinguisher** **ACTIVATE** (if available)
5. **AVIONICS Switch (BUS 1 and BUS 2)** **OFF**
6. **All Other Switches (except MAGNETOS switch)** **OFF**

WARNING

**AFTER THE FIRE EXTINGUISHER HAS BEEN USED,
MAKE SURE THAT THE FIRE IS EXTINGUISHED
BEFORE EXTERIOR AIR IS USED TO REMOVE SMOKE
FROM THE CABIN.**

7. **Vents/Cabin Air/Heat** **OPEN**
(When sure that fire is completely extinguished)

**IF FIRE HAS BEEN EXTINGUISHED AND ELECTRICAL POWER IS
NECESSARY FOR CONTINUED FLIGHT TO NEAREST SUITABLE
AIRPORT OR LANDING AREA**

8. **Circuit Breakers** **CHECK** for OPEN circuit(s), **DO NOT RESET**
9. **MASTER Switch (ALT and BAT)** **ON**
10. **AVIONICS Switch (BUS 1)** **ON**
11. **AVIONICS Switch (BUS 2)** **ON**

CABIN FIRE

1. STBY BATT Switch OFF
2. MASTER Switch (ALT and BAT) OFF
3. Vents/Cabin Air/Heat CLOSED
(to avoid drafts)
4. Fire Extinguisher ACTIVATE
(if available)

WARNING

**AFTER THE FIRE EXTINGUISHER HAS BEEN USED,
MAKE SURE THAT THE FIRE IS EXTINGUISHED
BEFORE EXTERIOR AIR IS USED TO REMOVE SMOKE
FROM THE CABIN.**

5. Vents/Cabin Air/Heat OPEN
(When sure that fire is completely extinguished)
6. Land the airplane as soon as possible to inspect for damage.

WING FIRE

1. LAND and TAXI Light Switches OFF
2. NAV Light Switch OFF
3. STROBE Light Switch OFF
4. PITOT HEAT Switch OFF

NOTE

Perform a sideslip to keep the flames away from the fuel tank and cabin. Land as soon as possible using flaps only as required for final approach and touchdown.

ICING

INADVERTENT ICING ENCOUNTER DURING FLIGHT

1. **PITOT HEAT Switch** **ON**
2. **Turn back or change altitude** to obtain an outside air temperature that is less conducive to icing.
3. **Pull cabin heat control full out and rotate defroster control clockwise** to obtain maximum defroster airflow.
4. Increase engine speed to minimize ice build-up on propeller blades. If excessive vibration is noted, momentarily reduce engine speed to 2200 RPM with the propeller control, and then rapidly move the control forward.

NOTE

Cycling the RPM flexes the propeller blades and high RPM increases centrifugal force, causing ice to shed more rapidly.

5. Watch for signs of induction air filter icing. A loss of manifold pressure could be caused by ice blocking the air intake filter. Adjust the throttle as necessary to hold manifold pressure. Adjust mixture, as necessary, for any change in power settings.
6. Plan a landing at the nearest airport. With an extremely rapid ice build-up, select a suitable "off airport" landing site.
7. With an ice accumulation of 0.25 inch or more on the wing leading edges, be prepared for significantly higher power requirements, higher approach and stall speeds, and a longer landing roll.
8. Leave wing flaps retracted. With a severe ice build-up on the horizontal tail, the change in wing wake airflow direction caused by wing flap extension could result in a loss of elevator effectiveness.
9. Open left window and, if practical, scrape ice from a portion of the windshield for visibility in the landing approach.
10. Perform a landing approach using a forward slip, if necessary, for improved visibility.
11. Approach at 80 to 90 KIAS depending upon the amount of the accumulation.
12. Perform a landing in level attitude.
13. Missed approaches should be avoided whenever possible because of severely reduced climb capability.

**STATIC SOURCE BLOCKAGE (ERRONEOUS INSTRUMENT
READING SUSPECTED)**

1. **ALT STATIC AIR Valve** **PULL ON**
2. CABIN HT and CABIN AIR Knobs PULL ON
3. Vents CLOSED
4. Airspeed Refer to the POH, Section 5,
Figure 5-1 (Sheet 2) Airspeed Calibration, Alternate Static Source.
5. Altitude Refer to the POH, Section 5,
Figure 5-2 Altimeter Correction, Alternate Static Source

EXCESSIVE FUEL VAPOR**FUEL FLOW STABILIZATION PROCEDURES**

(If flow fluctuations of 1 GPH or more, or power surges occur.)

1. FUEL PUMP Switch ON
2. Mixture ADJUST AS NECESSARY
(for smooth engine operation)
3. Fuel Selector Valve SELECT OPPOSITE TANK
(if vapor symptoms continue)
4. FUEL PUMP Switch OFF
(after fuel flow has stabilized)

ABNORMAL LANDINGS

LANDING WITH A FLAT MAIN TIRE

1. Approach NORMAL
2. Wing Flaps FULL
3. Touchdown GOOD MAIN TIRE FIRST
(Hold airplane off flat tire as long as possible with aileron control)
4. Directional Control MAINTAIN
(Using brake on good wheel as required)

LANDING WITH A FLAT NOSE TIRE

1. Approach NORMAL
2. Wing Flaps AS REQUIRED
120 to 140 KIAS - Flaps UP - 10°
100 to 120 KIAS - Flaps 10° - 20°
Below 100 KIAS - Flaps FULL
3. Touchdown ON MAINS
(Hold nosewheel off the ground as long as possible)
4. When nosewheel touches down, maintain full up elevator as airplane slows to stop.

ELECTRICAL POWER SUPPLY SYSTEM MALFUNCTIONS

M BUS VOLTS MORE THAN 32 OR M BAT AMPS MORE THAN 40

1. MASTER Switch (ALT Only) OFF

NOTE

The Main Battery supplies electrical power to the Main and Essential Buses until M BUS VOLTS decreases below 20 volts. When M BUS VOLTS falls below 20 volts, the Standby Battery System will automatically supply electrical power to the Essential Bus for at least 30 minutes.

(Continued Next Page)

M BUS VOLTS MORE THAN 32 OR M BAT AMPS MORE THAN 40 (Continued)

2. Electrical Load REDUCE IMMEDIATELY as follows:
- a. AVIONICS Switch (BUS 1) OFF
 - b. PITOT HEAT OFF
 - c. BEACON Light OFF
 - d. LAND Light OFF
(use as required for landing)
 - e. TAXI Light OFF
 - f. NAV Lights OFF
 - g. STROBE Lights OFF
 - h. CABIN PWR 12V OFF

NOTE

Select COM1 MIC and NAV1 on the audio panel and tune to the active frequency before setting AVIONICS BUS 2 to OFF. If COM2 MIC and NAV2 are selected when AVIONICS BUS 2 is set to off, the COM and NAV radios cannot be tuned.

- i. COM1 and NAV1 TUNE TO ACTIVE FREQUENCY
- j. COM1 MIC and NAV1 SELECT
(COM2 MIC and NAV2 will be inoperative once
AVIONICS BUS 2 is selected to OFF)

NOTE

When AVIONICS BUS 2 is set to OFF, the following items will not operate:

KAP 140 Autopilot	GMA 1347 Audio Panel
COMM 2	NAV 2
GTX 33 Transponder	GDU 1040 MFD

- k. AVIONICS Switch (BUS 2) OFF
(KEEP ON if in clouds)

(Continued Next Page)

M BUS VOLTS MORE THAN 32 OR M BAT AMPS MORE THAN 40 (Continued)

3. Land as soon as practical.

NOTE

Make sure a successful landing is possible before extending flaps. The flap motor is a large electrical load during operation.

LOW VOLTS ANNUNCIATOR COMES ON BELOW 1000 RPM

1. Throttle Control 1000 RPM
2. Low Voltage Annunciator (LOW VOLTS) CHECK OFF

LOW VOLTS ANNUNCIATOR REMAINS ON AT 1000 RPM

3. Authorized maintenance personnel must do electrical system inspection prior to next flight.

LOW VOLTS ANNUNCIATOR COMES ON OR DOES NOT GO OFF AT HIGHER RPM

1. MASTER Switch (ALT Only) OFF
2. Alternator Circuit Breaker (ALT FIELD) CHECK IN
3. MASTER Switch (ALT and BAT) ON
4. Low Voltage Annunciator (LOW VOLTS) CHECK OFF
5. M BUS VOLTS CHECK 27.5 V minimum
6. M BAT AMPS CHECK CHARGING (+)

IF LOW VOLTS ANNUNCIATOR REMAINS ON

7. MASTER Switch (ALT Only) OFF

NOTE

The Main Battery supplies electrical power to the Main and Essential Buses until M BUS VOLTS decreases below 20 volts. When M BUS VOLTS falls below 20 volts, the Standby Battery System will automatically supply electrical power to the Essential Bus for at least 30 minutes.

(Continued Next Page)

IF LOW VOLTS ANNUNCIATOR REMAINS ON (Continued)

8. Electrical Load REDUCE IMMEDIATELY as follows:
 - a. AVIONICS Switch (BUS 1). OFF
 - b. PITOT HEAT OFF
 - c. BEACON Light OFF
 - d. LAND Light OFF

(Use as required for landing)

 - e. TAXI Light OFF
 - f. NAV Lights OFF
 - g. STROBE Lights OFF
 - h. CABIN PWR 12V OFF

NOTE

Select COM1 MIC and NAV1 on the audio panel and tune to the active frequency before setting AVIONICS BUS 2 to OFF. If COM2 MIC and NAV2 are selected when AVIONICS BUS 2 is set to off, the COM and NAV radios cannot be tuned.

- i. COM1 and NAV1. TUNE TO ACTIVE FREQUENCY
 - j. COM1 MIC and NAV1 SELECT
- (COM2 MIC and NAV2 will be inoperative once
AVIONICS BUS 2 is selected to OFF)

NOTE

When AVIONICS BUS 2 is set to OFF, the following items will not operate:

KAP 140 Autopilot	GMA 1347 Audio Panel
COMM 2	NAV 2
GTX 33 Transponder	GDU 1040 MFD

- k. AVIONICS Switch (BUS 2). OFF
- (KEEP ON if in clouds)

9. Land as soon as practical.

NOTE

Make sure a successful landing is possible before extending flaps. The flap motor is a large electrical load during operation.

AIR DATA SYSTEM FAILURE

RED X - PFD AIRSPEED INDICATOR

1. ADC/AHRS Circuit Breakers CHECK IN
(ESS BUS and AVN BUS 1)
If open, reset (close) circuit breaker. If circuit breaker opens again,
do not reset.
2. Standby Airspeed Indicator USE FOR AIRSPEED
INFORMATION

RED X - PFD ALTITUDE INDICATOR

1. ADC/AHRS Circuit Breakers CHECK IN
(ESS BUS and AVN BUS 1)
If open, reset (close) circuit breaker. If circuit breaker opens again,
do not reset.
2. Standby Altimeter CHECK current barometric pressure SET.
USE FOR ALTITUDE INFORMATION.

ATTITUDE AND HEADING REFERENCE SYSTEM (AHRS) FAILURE

RED X - PFD ATTITUDE INDICATOR

1. ADC/AHRS Circuit Breakers CHECK IN
(ESS BUS and AVN BUS 1)
If open, reset (close) circuit breaker. If circuit breaker opens again,
do not reset.
2. Standby Attitude Indicator. USE FOR ATTITUDE
INFORMATION

RED X - HORIZONTAL SITUATION INDICATOR (HSI)

1. ADC/AHRS Circuit Breakers CHECK IN
(ESS BUS and AVN BUS 1)
If open, reset (close) circuit breaker. If circuit breaker opens again,
do not reset.
2. Non-Stabilized Magnetic Compass USE FOR HEADING
INFORMATION

DISPLAY COOLING ADVISORY

PFD1 COOLING OR MFD1 COOLING ANNUNCIATOR(S)

1. Cabin Heat (CABIN HT) REDUCE
(minimum preferred)
2. Forward Avionics Fan CHECK
(Feel for airflow from screen on glareshield)

IF FORWARD AVIONICS FAN HAS FAILED

3. STBY BATT Switch OFF
(Unless needed for emergency power)

IF PFD1 COOLING OR MFD1 COOLING ANNUNCIATOR DOES NOT GO OFF WITHIN 3 MINUTES OR IF BOTH PFD1 COOLING AND MFD1 COOLING ANNUNCIATORS COME ON

3. STBY BATT Switch OFF
(Land as soon as practical)

VACUUM SYSTEM FAILURE

LOW VACUUM ANNUNCIATOR COMES ON

CAUTION

IF VACUUM POINTER IS OUT OF THE GREEN ARC DURING FLIGHT OR GYRO FLAG IS SHOWN ON THE STANDBY ATTITUDE INDICATOR, THE STANDBY ATTITUDE INDICATOR MUST NOT BE USED FOR ATTITUDE INFORMATION

1. Vacuum Indicator (VAC) **CHECK** EIS SYSTEM page
(Make sure vacuum pointer is in green arc limits)

MAXIMUM GLIDE

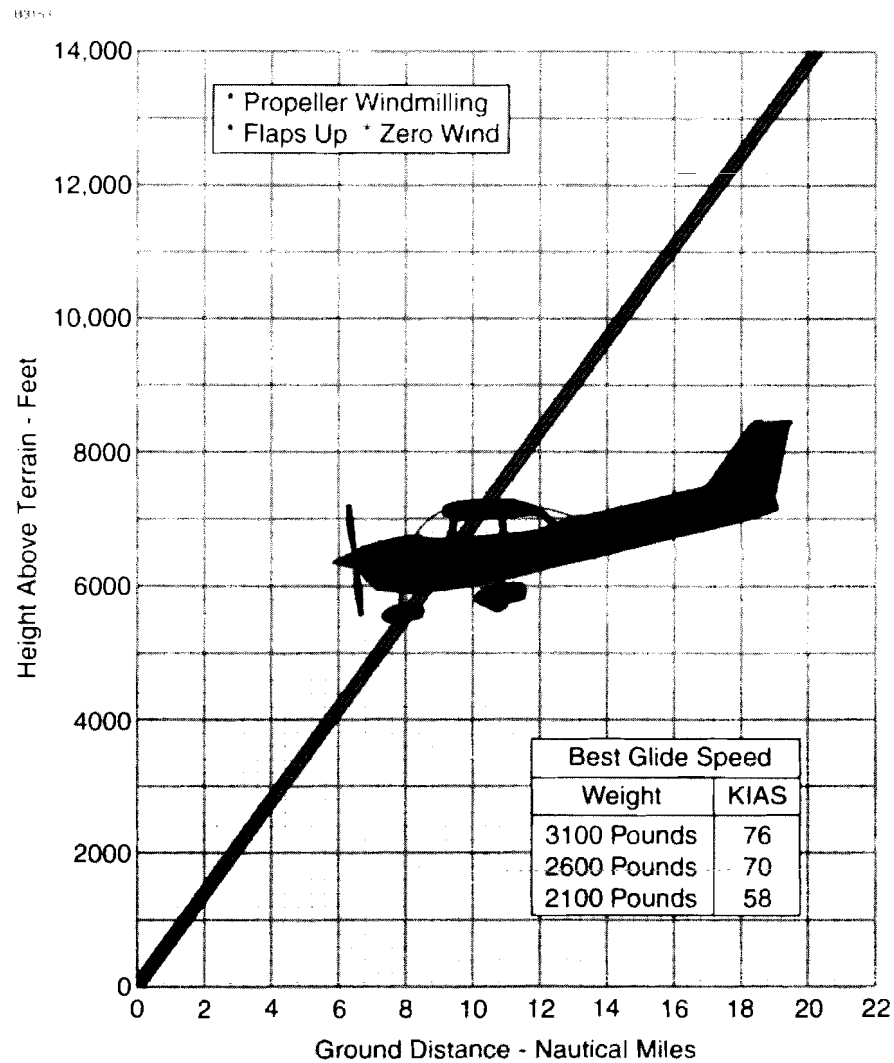


Figure 2*

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PERFORMANCE

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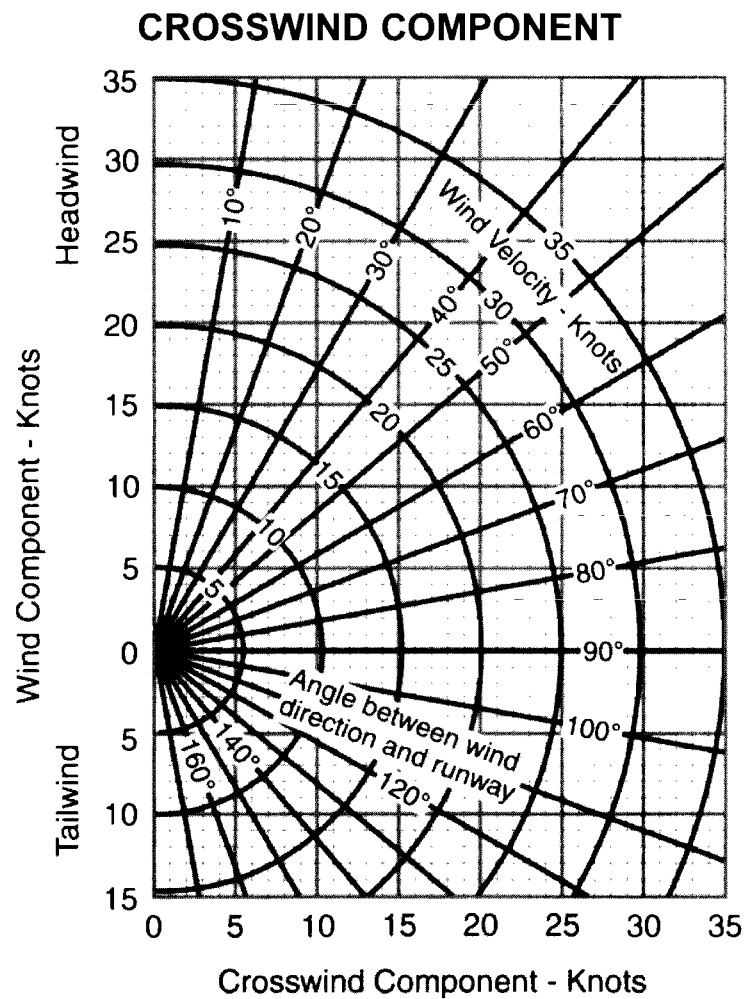
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**Note**

Maximum demonstrated crosswind velocity is 15 knots (not a limitation).

Figure 3

SHORT FIELD TAKEOFF DISTANCE AT 3100 POUNDS

CONDITIONS:

- Flaps 20°
- 2400 RPM, Full Throttle and Mixture Set Prior to Brake Release
- Paved, Level, Dry Runway
- Cowl Flaps Open
- Lift Off: 49 KIAS
- Speed at 50 Feet: 58 KIAS
- Zero Wind

Pressure Altitude in Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst
S.L.	715	1365	765	1460	825	1570	885	1680	945	1800
1000	775	1490	835	1600	900	1720	965	1845	1030	1980
2000	850	1635	915	1760	980	1890	1055	2035	1130	2190
3000	925	1800	995	1940	1070	2090	1150	2255	1235	2435
4000	1015	1990	1090	2150	1175	2325	1260	2515	1355	2720
5000	1110	2210	1195	2395	1290	2595	1385	2820	1485	3070
6000	1220	2470	1315	2690	1415	2930	1520	3200	1635	3510
7000	1340	2785	1445	3045	1560	3345	1675	3685	---	---
8000	1480	3175	1595	3500	1720	3880	---	---	---	---

NOTE

- Short field technique as specified in NORMAL PROCEDURES page N-17.
- Prior to takeoff, the mixture should be leaned to the Maximum Power Fuel Flow placard value in a full throttle, static runup.
- Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
- For operation on dry, grass runway, increase distances by 15% of the "ground roll" figure.

SHORT FIELD TAKEOFF DISTANCE AT 2700 POUNDS

CONDITIONS:

- Flaps 20°
- 2400 RPM, Full Throttle and Mixture Set Prior to Brake Release
- Paved, Level, Dry Runway
- Cowl Flaps Open
- Lift Off: 45 KIAS
- Speed at 50 Feet: 54 KIAS
- Zero Wind

Pressure Altitude in Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst
S.L.	520	995	560	1065	600	1135	645	1215	690	1295
1000	565	1080	610	1155	655	1235	700	1320	750	1410
2000	615	1180	665	1260	710	1350	765	1445	820	1545
3000	675	1285	725	1380	775	1480	835	1585	895	1695
4000	735	1410	790	1510	850	1625	910	1740	975	1870
5000	805	1550	865	1665	930	1790	1000	1920	1070	2065
6000	880	1705	950	1840	1020	1980	1095	2135	1175	2300
7000	965	1890	1040	2040	1120	2205	1200	2380	1290	2575
8000	1060	2100	1145	2275	1230	2465	1320	2675	1420	2910

NOTE

- Short field technique as specified in NORMAL PROCEDURES page N-17.
- Prior to takeoff, the mixture should be leaned to the Maximum Power Fuel Flow placard value in a full throttle, static runup.
- Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
- For operation on dry, grass runway, increase distances by 15% of the "ground roll" figure.

SHORT FIELD TAKEOFF DISTANCE AT 2300 POUNDS

CONDITIONS:

- Flaps 20°
- 2400 RPM, Full Throttle and Mixture Set Prior to Brake Release
- Paved, Level, Dry Runway
- Cowl Flaps Open
- Lift Off: 42 KIAS
- Speed at 50 Feet: 50 KIAS
- Zero Wind

Pressure Altitude in Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst
S.L.	365	705	390	750	420	800	450	850	480	905
1000	395	765	425	815	455	870	490	925	520	985
2000	430	830	460	885	495	940	530	1005	565	1070
3000	470	900	505	960	540	1025	580	1090	620	1165
4000	510	980	550	1045	590	1115	630	1190	675	1270
5000	555	1065	600	1140	640	1220	690	1305	735	1390
6000	610	1165	655	1250	700	1335	755	1430	805	1530
7000	665	1275	715	1370	770	1470	825	1570	885	1685
8000	730	1405	785	1510	845	1620	905	1735	970	1865

NOTE

- Short field technique as specified in NORMAL PROCEDURES page N-17.
- Prior to takeoff, the mixture should be leaned to the Maximum Power Fuel Flow placard value in a full throttle, static runup.
- Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
- For operation on dry, grass runway, increase distances by 15% of the "ground roll" figure.

CRUISE PERFORMANCE PRESSURE ALTITUDE SEA LEVEL

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	27	---	---	---	---	---	---	---	---	---
	26	---	---	---	---	---	---	82	140	14.3
	25	84	134	14.5	81	136	14.0	78	138	13.5
	24	79	132	13.6	76	133	13.2	74	135	12.8
	23	74	129	12.8	71	130	12.4	69	131	12.1
	22	69	126	12.1	67	127	11.7	65	127	11.4
	21	65	122	11.4	62	122	11.1	60	123	10.8
	20	60	118	10.7	58	118	10.4	56	118	10.2
2300	27	---	---	---	---	---	---	84	141	14.5
	26	---	---	---	82	137	14.2	79	139	13.7
	25	80	133	13.9	78	135	13.4	75	136	13.0
	24	76	130	13.2	73	132	12.7	71	132	12.3
	23	71	127	12.4	69	128	12.0	67	129	11.7
	22	67	124	11.7	65	124	11.4	62	125	11.1
	21	62	120	11.1	60	120	10.8	58	121	10.5
	20	58	116	10.4	56	116	10.2	54	116	9.9
2200	27	---	---	---	83	137	14.4	80	139	13.9
	26	82	133	14.2	79	135	13.6	76	136	13.2
	25	77	131	13.4	75	133	12.9	72	134	12.6
	24	73	129	12.7	71	130	12.3	68	130	11.9
	23	69	126	12.0	66	126	11.7	64	126	11.3
	22	65	122	11.4	62	122	11.1	60	123	10.8
	21	60	118	10.8	58	119	10.5	56	118	10.2
	20	56	114	10.2	54	114	9.9	52	114	9.7

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

3100 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2100	27	82	133	14.2	79	135	13.7	76	136	13.2
	26	78	131	13.4	75	133	13.0	73	134	12.6
	25	74	129	12.8	71	130	12.4	69	130	12.0
	24	70	126	12.1	67	127	11.8	65	127	11.4
	23	66	123	11.5	63	123	11.2	61	123	10.9
	22	61	119	10.9	59	120	10.6	57	120	10.4
	21	57	115	10.4	55	116	10.1	54	115	9.9
	20	53	111	9.8	51	111	9.6	50	111	9.3
2000	27	78	131	13.4	75	133	13.0	72	134	12.6
	26	74	129	12.8	71	130	12.4	69	131	12.0
	25	70	126	12.2	67	127	11.8	65	127	11.5
	24	66	123	11.6	64	124	11.3	62	124	11.0
	23	62	120	11.0	60	120	10.7	58	121	10.5
	22	58	116	10.5	56	117	10.2	54	116	10.0
	21	54	113	10.0	53	112	9.7	51	112	9.5
	20	51	108	9.4	49	108	9.2	47	108	9.0

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 2000 FEET

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	26	---	---	---	---	---	---	---	---	---
	25	---	---	---	83	140	14.4	80	142	13.9
	24	81	136	14.1	79	138	13.6	76	139	13.2
	23	77	133	13.3	74	134	12.8	71	135	12.4
	22	72	130	12.5	69	131	12.1	67	131	11.7
	21	67	126	11.8	65	126	11.4	63	127	11.1
	20	62	122	11.0	60	122	10.7	58	122	10.5
	20	62	122	11.0	60	122	10.7	58	122	10.5
2300	26	---	---	---	---	---	---	82	143	14.2
	25	83	137	14.4	80	139	13.9	77	140	13.4
	24	78	134	13.6	76	136	13.1	73	137	12.7
	23	74	131	12.8	71	133	12.4	69	133	12.0
	22	69	128	12.1	67	128	11.7	65	129	11.4
	21	65	124	11.4	62	124	11.1	60	125	10.8
	20	60	120	10.7	58	120	10.5	56	120	10.2
	20	60	120	10.7	58	120	10.5	56	120	10.2
2200	26	---	---	---	81	139	14.1	78	140	13.6
	25	80	135	13.8	77	137	13.3	74	138	12.9
	24	75	132	13.1	73	134	12.6	70	134	12.3
	23	71	129	12.4	69	130	12.0	66	130	11.6
	22	67	126	11.7	64	126	11.4	62	127	11.0
	21	62	122	11.1	60	122	10.8	58	122	10.5
	20	58	118	10.5	56	118	10.2	54	118	9.9
	20	58	118	10.5	56	118	10.2	54	118	9.9

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 4000 FEET

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	25	---	---	---	---	---	---	83	146	14.4
	24	84	140	14.6	81	142	14.0	78	143	13.6
	23	79	138	13.7	76	139	13.2	74	139	12.8
	22	74	134	12.9	72	135	12.5	69	135	12.1
	21	70	130	12.1	67	131	11.7	65	131	11.4
	20	65	126	11.4	62	126	11.1	60	126	10.8
2300	25	---	---	---	83	143	14.3	80	144	13.8
	24	81	138	14.0	78	140	13.5	75	141	13.1
	23	76	135	13.2	74	137	12.8	71	137	12.4
	22	72	132	12.5	69	133	12.1	67	133	11.7
	21	67	128	11.7	65	128	11.4	62	129	11.1
	20	62	124	11.1	60	124	10.7	58	124	10.5
2200	25	82	139	14.2	79	141	13.7	77	142	13.2
	24	78	136	13.4	75	138	13.0	72	138	12.6
	23	73	133	12.7	71	134	12.3	68	134	11.9
	22	69	130	12.0	66	130	11.7	64	130	11.3
	21	65	126	11.4	62	126	11.0	60	126	10.7
	20	60	122	10.7	58	122	10.4	56	121	10.2

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 4000 FEET (Continued)

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2100	25	78	137	13.5	75	138	13.0	73	138	12.6
	24	74	134	12.8	71	135	12.4	69	135	12.0
	23	70	131	12.2	67	131	11.8	65	131	11.4
	22	66	127	11.5	63	127	11.2	61	127	10.9
	21	61	123	10.9	59	123	10.6	57	123	10.3
	20	57	119	10.3	55	119	10.1	53	118	9.8
2000	25	74	134	12.8	71	135	12.4	69	135	12.1
	24	70	131	12.2	68	131	11.8	65	132	11.5
	23	66	127	11.6	64	128	11.3	62	128	11.0
	22	62	124	11.0	60	124	10.7	58	124	10.4
	21	58	120	10.5	56	120	10.2	54	120	9.9
	20	54	116	9.9	52	115	9.7	51	115	9.4

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 6000 FEET

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	23	82	142	14.2	79	143	13.6	76	144	13.2
	22	77	138	13.3	74	139	12.8	72	139	12.4
	21	72	135	12.5	69	135	12.1	67	135	11.7
	20	67	130	11.7	65	130	11.4	62	131	11.1
	19	62	126	11.0	60	126	10.7	58	125	10.4
2300	23	79	140	13.6	76	141	13.1	73	141	12.7
	22	74	136	12.8	71	137	12.4	69	137	12.0
	21	69	132	12.1	67	133	11.7	64	133	11.4
	20	65	128	11.4	62	128	11.0	60	128	10.7
	19	60	124	10.7	58	123	10.4	56	123	10.1
2200	23	76	137	13.1	73	138	12.6	70	138	12.3
	22	71	134	12.4	69	134	12.0	66	135	11.6
	21	67	130	11.7	64	130	11.3	62	130	11.0
	20	62	126	11.0	60	126	10.7	58	125	10.4
	19	58	121	10.4	56	121	10.1	54	120	9.9
2100	23	72	135	12.5	69	135	12.1	67	135	11.7
	22	68	131	11.8	65	131	11.5	63	131	11.1
	21	63	127	11.2	61	127	10.9	59	127	10.6
	20	59	123	10.6	57	122	10.3	55	122	10.0
	19	55	118	10.0	53	118	9.8	51	117	9.5
2000	23	68	131	11.9	66	132	11.5	63	132	11.2
	22	64	127	11.3	62	128	11.0	60	128	10.7
	21	60	124	10.7	58	123	10.4	56	123	10.2
	20	56	119	10.2	54	119	9.9	52	118	9.7
	19	52	115	9.6	50	114	9.4	48	113	9.1

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 8000 FEET

CONDITIONS:

3100 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	21	74	139	12.9	72	139	12.5	69	140	12.1
	20	69	134	12.1	67	135	11.7	65	135	11.4
	19	64	130	11.4	62	130	11.0	60	130	10.7
	18	59	125	10.6	57	124	10.3	55	124	10.1
2300	21	72	136	12.5	69	137	12.0	67	137	11.7
	20	67	132	11.7	64	132	11.3	62	132	11.0
	19	62	128	11.0	60	127	10.7	58	127	10.4
	18	57	122	10.3	55	122	10.1	53	121	9.8
2200	21	69	134	12.0	66	134	11.6	64	134	11.3
	20	64	130	11.3	62	130	11.0	60	129	10.7
	19	60	125	10.7	57	125	10.4	55	124	10.1
	18	55	120	10.1	53	119	9.8	51	119	9.5
2100	21	65	131	11.5	63	131	11.2	61	131	10.8
	20	61	127	10.9	59	126	10.6	57	126	10.3
	19	57	122	10.3	55	121	10.0	53	121	9.7
	18	52	117	9.7	50	116	9.4	49	115	9.2
2000	21	62	128	11.0	60	127	10.7	58	127	10.4
	20	58	123	10.4	56	123	10.1	54	122	9.9
	19	54	118	9.9	52	118	9.6	50	117	9.4

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 10,000 FEET

CONDITIONS:

3100 Pounds

Recommended Lean Mixture

Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	20	72	139	12.5	69	139	12.1	67	139	11.7
	19	67	134	11.7	64	134	11.3	62	134	11.0
	18	62	129	11.0	59	129	10.6	57	128	10.3
2300	21	74	141	12.8	71	141	12.4	69	142	12.0
	20	69	136	12.1	66	137	11.7	64	136	11.3
	19	64	132	11.3	62	132	11.0	60	131	10.7
	18	59	126	10.6	57	126	10.3	55	125	10.1
2200	20	66	134	11.6	64	134	11.3	62	133	10.9
	19	62	129	11.0	59	129	10.6	57	128	10.4
	18	57	124	10.3	55	123	10.0	53	123	9.8
2100	20	63	131	11.2	61	130	10.8	59	130	10.5
	19	59	126	10.5	56	125	10.2	54	125	10.0
	18	54	121	9.9	52	120	9.7	50	119	9.4
2000	20	60	127	10.7	58	127	10.4	55	126	10.1
	19	56	122	10.1	54	122	9.8	52	121	9.6
	18	51	117	9.6	50	116	9.3	48	115	9.0

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 12,000 FEET

CONDITIONS:

3100 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	18	64	133	11.3	61	133	10.9	59	133	10.6
	17	59	127	10.5	56	127	10.2	54	126	10.0
	16	53	121	9.8	51	120	9.6	50	119	9.3
2300	18	61	131	10.9	59	130	10.6	57	130	10.3
	17	56	125	10.2	54	124	10.0	52	123	9.7
	16	52	118	9.6	50	118	9.3	48	117	9.0
2200	18	59	128	10.6	57	128	10.3	55	127	10.0
	17	54	122	9.9	52	121	9.7	50	121	9.4
2100	18	56	125	10.2	54	124	9.9	52	123	9.6
	17	52	119	9.6	50	118	9.3	48	117	9.1
2000	19	57	126	10.4	55	125	10.1	53	125	9.8
	18	53	121	9.8	51	120	9.5	49	119	9.3

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

CRUISE PERFORMANCE

PRESSURE ALTITUDE 14,000 FEET

CONDITIONS:

3100 Pounds
Recommended Lean Mixture
Cowl Flaps Closed

RPM	MP	20°C BELOW STANDARD TEMP			STANDARD TEMPERATURE			20°C ABOVE - STANDARD TEMP		
		% BPH	KTAS	GPH	% BPH	KTAS	GPH	% BPH	KTAS	GPH
2400	16	56	126	10.1	53	125	9.8	51	124	9.6
	15	50	118	9.4	48	117	9.1	47	116	8.9
2300	16	53	123	9.8	51	122	9.6	50	121	9.3
2200	16	51	120	9.6	49	119	9.3	48	118	9.0
2100	16	49	116	9.2	47	115	8.9	45	114	8.7

NOTE

- Maximum cruise power is 80% MCP. Those powers above that value in the table are for interpolation purposes only.
- For best economy, operate at peak EGT.

SHORT FIELD LANDING DISTANCE AT 2950 POUNDS

CONDITIONS:

- Flaps - FULL
- Maximum Braking
- Zero Wind
- Power Off
- Paved, Level, Dry Runway
- Speed at 50 Feet: 60 KIAS

Pressure Altitude in Feet	0°C		10°C		20°C		30°C		40°C	
	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst	Grnd Roll	Total Ft to Clear 50 Ft Obst
S.L.	560	1300	580	1335	600	1365	620	1400	640	1435
1000	580	1265	600	1365	620	1400	645	1440	665	1475
2000	600	1370	625	1405	645	1440	670	1480	690	1515
3000	625	1410	645	1445	670	1485	695	1525	715	1560
4000	650	1450	670	1485	695	1525	720	1565	740	1600
5000	670	1485	695	1525	720	1565	745	1610	770	1650
6000	700	1530	725	1575	750	1615	775	1660	800	1700
7000	725	1575	750	1615	780	1665	805	1710	830	1750
8000	755	1625	780	1655	810	1715	835	1760	865	1805

NOTE

- Short field technique as specified in NORMAL PROCEDURES page N-21.
- Decrease distances 10% for each 9 knots headwind. For operation with tail winds up to 10 knots, increase distances by 10% for each 2 knots.
- For operation on dry, grass runway, increase distances by 45% of the "ground roll" figure.
- If a landing with flaps up is necessary, increase the approach speed by 10 KIAS and allow for 40% longer distances.

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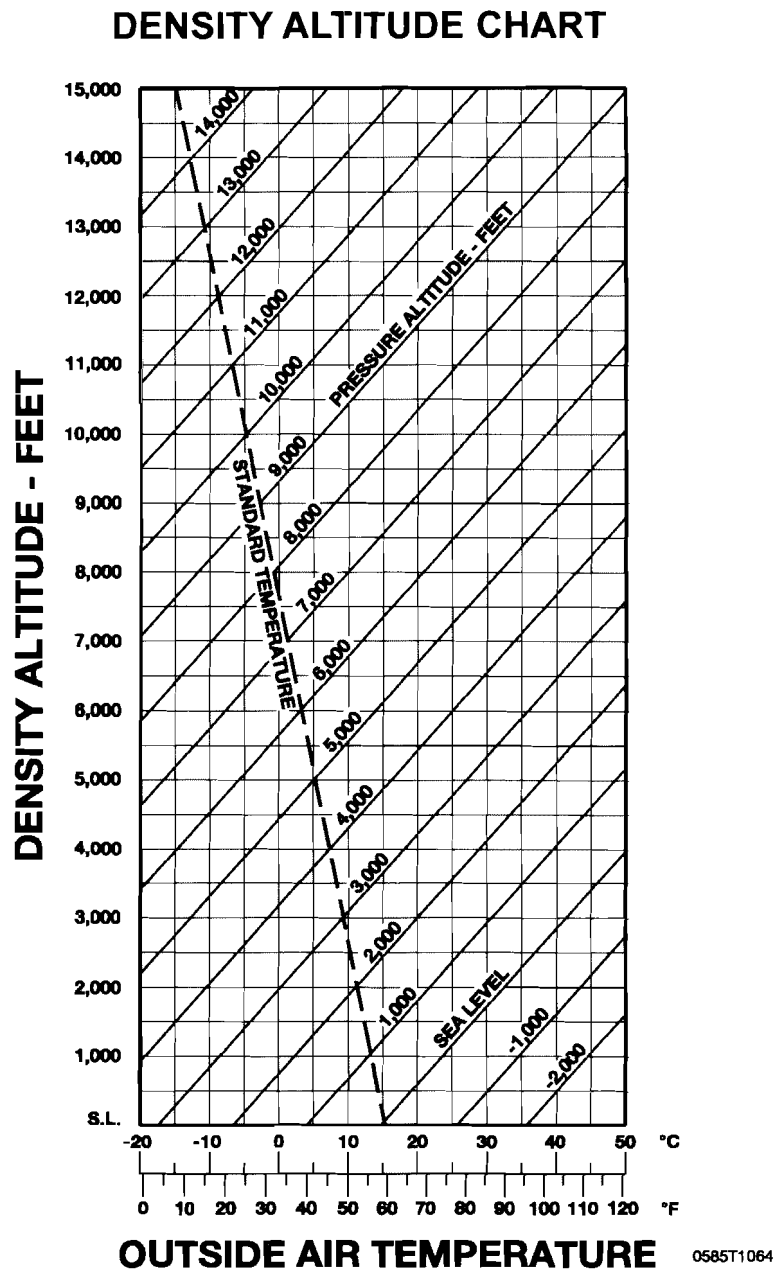


Figure 4~