C182 Vorflugkontrolle

1 Kabine

Notwendige Papiere ..... Vorhanden
Bord-, Flughandbuch, Checklisten, Abfangverfahren
Notausrüstung ..... Prüfen, gesichert
Ruderverriegelung ..... Entfernen
Hauptschalter (Bat, Alt)..... AN
Kraftstoffvorrat..... Prüfen
*Landeklappen ..... 10°
- *bei Flügen in der Nacht*
  Innenbeleuchtung ..... AN, Prüfen
  Externen Lichter..... Alle AN, Prüfen
  Taschenlampe ..... Mitführen, Prüfen

Hauptschalter..... AUS
Tankwahlschalter..... BEIDE
Peilstab, *Drain-Becher..... Entnehmen

2 Leitwerk

Gepäckraumtür ..... Prüfen, verriegeln
Seitenruderfestellvorrichtung ..... Entfernen
Heckverankerung..... Lösen
Verankerungsring ..... Prüfen
Flugzeug-Unterseite ..... Prüfen
Ruder..... Freigängig
Ruder, Trimmung..... Zustand prüfen
Anschlüsse, Steuerseile, Anschlagschrauben
Positionsleuchte..... Unbeschädigt
Beacon..... Unbeschädigt
Antennen ..... Prüfen

3 Rechte Flügelhinterseite

Landeklappe ..... Prüfen
Reifen ..... Prüfen
Querruder ..... Freigängig, Zustand prüfen
Randbogen, Positionsleuchte ..... Prüfen

4 Rechte Flügelvorderkante

Flügelvorderkante, Strebe..... Prüfen
Flügel-Verankerung ..... Lösen
Kabinenlufteinlass..... Prüfen
*Flächentank (4 / S/G: 5) ..... Drainen
Kraftstoffvorrat ..... mit Peilstab prüfen
Tankdeckel ..... Schliessen

5 Flugzeugnase

Ölstand (min. 6 Quarts)..... Prüfen
*Schnellablaß Brandhahn ..... Drainen
*Krafstoffsieb-Ablaßknopf ..... Drainen
Sichtkontrolle Motorraum..... Durchführen
Motorabdeckung ..... Prüfen
Propeller ..... Prüfen
Ölkühler ..... Prüfen
Alternator Keilriemen ..... Spannung prüfen
Vergaserluftfilter..... Prüfen
Bugrad, Reifen, Federbein..... Prüfen
Öffnung für statischen Druck ..... Prüfen

6 Linke Flügelvorderkante

*Flächentank (4)..... Drainen
Kraftstoffvorrat..... mit Peilstab prüfen
unterer Rand des Anzeigers im Füllstutzen: 49 ltr
Tankdeckel..... Schliessen
Kabinenlufteinlass ..... Prüfen
Pitot-Schutz..... Entfernen
Pitotrohr..... Prüfen
Flügelvorderkante, Strebe ..... Prüfen
Tankentlüftung ..... Prüfen
Überziehwarnung ..... Prüfen
Sauberkeit und Funktion
Lande-, Rollscheinwerfer..... Unbeschädigt
Flügel-Verankerung..... Lösen

7 Linke Flügelhinterseite

Randbogen, Positionsleuchte..... Prüfen
Querruder..... Freigängig, Zustand prüfen
Anschlüsse, Steuerstange, Gewichte
Reifen..... Prüfen
Bremsen, Rutschmarkierung, Reifenprofil
Landeklappe..... Prüfen
*Flächentank (5)..... Drainen
Kraftstoffvorrat..... mit Peilstab prüfen
Tankdeckel..... Schliessen

Stall		
V_{S0}	**Clean**	**54**
	Flaps 40°	**49**
Takeoff & Climb		
V_Y (Best Rate)		**73**
V_X (Best Angle)		**59**
V_R		**55**
Enroute		**75-85**
Maneuvering		
V_A	(3100 lbs)	**111**
V_A	(2600 lbs)	**102**
V_A	(2000 lbs)	**88**
Operating		
V_{NE}		**179**
V_{NO}		**143**
V_{FE} (Flaps 10°)		**140**
V_{FE} (Flaps 20°)		**120**
V_{FE} (Flaps 40°)		**95**
Descent		
V_{GLIDE} (Flaps Up)		**65**
Flaps Up		**60-70**
Flaps 0° - 10°		**< 110**
Flaps 10° - 40°/30°		**< 85**
Flaps Down		**55-65**
Short Field		**60**
Max. CWC (demonstrated)		**15**
Fuel Capacity		**N**
Both Tanks		**92,0**
Each Tanks		**46,0**
Unusable fuel (each tank)		**2,0**

COCKPIT Checklist

Preflight-Inspection ..... **Complete**
Hobbs Hour ..... **Note**
Seats, Seatbelts ..... **Locked**
elec. Switches, Avionic ..... **OFF**
Flight Controls, Trim ..... **Checked**
Alternate Static ..... **OFF**
Fuel Selector ..... **BOTH**

STARTING ENGINE Checklist

Battery, Alternator ..... **ON**
Alternator Out Light ..... **On**
- if using External Power Alternator ..... OFF

Beacon ..... **ON**
Cowl Flaps ..... **OPEN**

ENGINE START

Mixture ..... ***RICH***
Propeller ..... ***Full FORWARD***
Carburetor Heat ..... ***OFF***
Throttle ..... ***OPEN 1 cm***
- ***if Overprime (Flooded Engine)***
  Throttle ..... ***¼ - ½ inch***

Primer ..... ***As required***
cold engine: 2-6 times
Prop. area ..... ***Clear***
Ignition ..... ***START***
Throttle ..... ***800-1000 RPM***
Oil pressure ..... ***CHK***
Mixture ..... ***Set***

AFTER START Checklist

Avionic ..... **ON, set**
Transponder ..... **FLT-ID, SBY / GND**
VFR US: 1200, Europe: 7000
Flaps ..... **0° / 20°**
Circuit breakers ..... **Checked**
Altimeters (2) ..... **QNH___, ___ ft**
Autopilot ..... **Test completed**
Electrical Trim ..... **Tested**
Gyro-instruments ..... **Checked**

TAXI Checklist

Brakes ..... **Checked**
Flight-Instruments ..... **Checked**
Dep., Emer. Briefing ..... **Completed**

ENGINE CHECK

Brakes ..... ***Set***
Doors, windows ..... ***Closed***
Engine-Instruments ..... ***CHK***
Mixture ..... ***Full RICH***
Throttle ..... ***M/N: 1700***
Ignition ..... ***CHK, BOTH***
RPM drop ≤ 150, diff. ≤ 50
Carburetor Heat ..... ***CHK, OFF***
Suction (VAC) ..... ***CHK***
Throttle ..... ***IDLE, then 1000 RPM***
Circuit breakers ..... ***Check***

TAKEOFF Checklist

Tracking/Timing ..... **START**
Fuel Selector ..... **BOTH**
Flaps ..... **0° / 20°**
Trim ..... **T/O set**
Mixture ..... **RICH**
Carburetor Heat ..... **OFF/In**
Primer ..... **Locked**
Transponder ..... **GND / ALT**
--------- immediately prior line up ---------
Lights ..... **As required**
Pitot Heat ..... **As required**
---------- on the runway ----------
Heading Indicator ..... **CHK**

at ½ rwy-length: min. 70% of T/O-Speed (35 kts)
Slope 1% down: -5% TOD | 1% up: +7% | T/O uphill if HWC>5 kts

CLIMB Checklist

Flaps ..... **UP**
Lights ..... **As required**
------- when passing Transition Altitude -------
Altimeters (2) ..... **Standard, ___ ft**

V_Y ..... 59 kts
- when clear of obstacles

V_X ..... 70 kts
Flaps ..... UP
Speed ..... 81 or 85-95 kts

APPROACH Checklist

Fuel Selector ..... **BOTH**
Cowl Flaps ..... **CLOSED**
Mixture ..... **Enriched**
Carburetor Heat ..... **As required**
Landing light ..... **ON**
Approach Briefing ..... **Completed**
Altimeters (2) ..... **QNH___, ___ ft**
A/P Baro ..... **QNH___**

Downwind
- 2000 RPM ..... 95 kts
- Flaps 10° ..... 85 kts

Base Turn 1500 RPM/500 fpm Descent
- Flaps 20° ..... 75 kts
- Flaps 30° ..... 65 kts

LANDING Checklist

Flaps ..... **___°**
Mixture ..... **RICH**
Carburetor Heat ..... **ON**

Go-Around
Throttle ..... *Full OPEN*
Carburetor Heat ..... *OFF*
Flaps ..... *20°*
continue with Climb Checklist

AFTER LANDING Checklist

Flaps ..... **UP**
Carburetor Heat ..... **OFF**
Cowl Flaps ..... **OPEN**
Trim ..... **T/O Set**
Lights ..... **As required**
Pitot Heat ..... **OFF**

ENGINE SHUTDOWN

Throttle ..... ***1000 RPM***
Avionic, A/P ..... ***OFF***
Mixture ..... ***CUTOFF***
Electrical switches ..... ***All OFF***
Ignition ..... ***OFF, Keys out***
Master (Bat, Alt) ..... ***OFF***

PARKING Checklist

Parking Brake ..... **As required**
Fuel Selector ..... **RIGHT**
Tracking/Timing ..... **Stop**
Hobbs Hour ..... **Note**
Personal Items ..... **Remove**
Headset, Ext. GPS, Checklist, Tablet, Camera(s)
Pitot-Cover ..... **Attached**
Airplane .... **Secure, Tie Down, Chock**

SHORT Field Takeoff

at ½ rwy-length: min. 70% of T/O-Speed (35 kts)
Slope 1% down: -5% TOD | 1% up: +7%

Flaps ..... **20°**
Elevator during Taxi ..... **FULL BACK**
V_R ..... **50 kts**
Level off in Ground Effect and accelerate
V_Y ..... **59 kts**
• when clear of obstacles V_X ..... **70 kts**

SOFT Field Takeoff

Short grass: +15% TOD | Tall grass: +25% TOD
Mud/snow: >+25% TOD

Flaps ..... **0°**
Elevator during Taxi ..... **FULL BACK**
Trim ..... **2 Strokes NOSE DOWN**
Do not stop prior T/O
Accelerate ..... **TAIL LOW**
Level off in Ground Effect and accelerate.

SHORT Field Landing

Flaps ..... **40°**
Speed ..... **60 kts**
• after touchdown:
Brakes ..... **APPLY**
Elevator ..... **Full UP**

SOFT Field Landing

Flaps ..... **40°**
• Just before touchdown
Power ..... **increase 100-200 RPM**
Elevator during Taxi ..... **FULL BACK**
Braking ..... **AVOID**

ENG Fire during Engine Start

Cabin Heat, Cabin Air ..... OFF
Ignition .....Continue START
- if engine starts:
  Throttle..... 1700 RPM
- if engine does not start:
  Throttle.....Full OPEN

Mixture .....CUTOFF
Fuel Selector..... OFF
push and rotate
Master (Bat, Alt)..... OFF
Ignition ..... OFF
Brakes ..... Release as required
Fire Extinguisher.....Take along

Evacuate Aircraft

ENG Failure during Take-Off

Throttle..... IDLE
♦ Aircraft on the ground:
Brakes ..... Apply
Flaps..... UP
to increase brake efficency
Mixture .....CUTOFF
Master (Bat, Alt) ..... OFF
Ignition ..... OFF
♦ Aircraft in flight:
Speed
- Flaps UP..... 76 kts
- Flaps ≥ 10° ..... 70 kts

reduce 1 kts / 100 lbs
Landing site .....Select
Mixture .....CUTOFF
Ignition ..... OFF
Flaps..... As required
Master (Bat, Alt) ..... OFF
Doors..... Unlock
Seatbelts ..... Tighten
Touchdown ..... lowest poss. speed

ENG Failure/Fire in Flight

Speed
- Flaps UP ..... 76 kts
- Flaps ≥ 10° ..... 70 kts

reduce 1 kts / 100 lbs
Flaps..... AS REQUIRED
Landing site ..... SELECT
Range appr. 1,4 NM / 1000 ft
- if Fire:
  Mixture .....CUTOFF
  Fuel Shutoff Valve..... CLOSE/Pull
  Ignition ..... OFF
  Master (Bat, Alt) ..... OFF
  Carburetor Heat.....OFF/IN
  Cabin Heat, Cabin Air ..... OFF
  except overhead vents
  Speed ..... 100 kts
  - if Fire continues
    Speed .....INCREASE

- if Altitude for Restart sufficient:
  Carburetor Heat..... ON
  Fuel Selector ..... BOTH
  Throttle.....1/8 inch OPEN
  Primer.....Locked
  - if engines does not start:
    Mixture .....RICH
  Ignition ..... BOTH
  - if engine does not turn:
    Ignition ..... START
    Throttle.....Slowly advance
    Mixture .....Slowly lean
    as required

♦ if engine starts:
Mixture ..... As required
♦ if engine does not start:
Forced Landing apply

Smoke / Fire

Vents, Cabin Heat, Cabin Air ..... OFF
Determine source of fire
Master (Bat, Alt) ..... OFF
Electrical Equipment .....All OFF
leave Ignition on
Avionic (1+2)..... OFF
Fire Extinguisher..... Use as req.
- if Fire is confirmed extinguished:
  Cabin .....Ventilate

Land as soon as possible

- if electric power required:
  Circuit breakers.....CHK
  do not reset
  Battery..... ON
  Alternator..... ON
  Avionic ..... ON
  Electrical Equipment ..... ON
  turn on required equipment one after the other

Wing Fire

Vents ..... CLOSE
External Lights .....All OFF
Pitot Heat ..... OFF
Slip.....Perform
keep flames away from fuel tank, cabin

Land as soon as possible

land with Flaps 0°: V_{REF} 70 kt

Oil-Pressure low

♦ Oil-Temperature normal:
Land at nearest suitable airfield
♦ Oil-Temperature high:
Oil-Temperature high apply

Oil -Temperature high

Throttle.....Reduce power

Land as soon as possible

Carbon monoxide high

CO-Sticker has black spots
Cabin Heat..... OFF
Cabin Air .....ON
Vents..... Open
Windows..... Open

Land at nearest suitable airfield

Forced Landing

Normal Checklist included
Speed
- Flaps UP..... 76 kts
- Flaps ≥ 10° ..... 70 kts

reduce 1 kts / 100 lbs
Mixture.....CUTOFF
Throttle ..... IDLE
Fuel Selector..... OFF
push and rotate
Ignition ..... OFF
Radio .....Transmit Mayday
Transponder 7700
Flaps ..... As required
30°/40° recommended
Master (Bat, Alt)..... OFF
Seats.....Upright, locked
Seatbelts ..... Tighten
ELT.....ON
Speed.....Flaps 10°: 60 kts
Flaps UP: 65 kts
Flaps ..... AS REQUIRED
Full recommended
- when landing is assured:
  Doors..... Unlock
  Touchdown ..... lowest poss. speed
  Brakes .....Apply heavily

Spin Recovery

Aileron .....Neutral
Throttle ..... IDLE
Rudder.....Apply and hold full opposite direction of rotation
Maximum deflection
Use turn coordinator if disorientation precludes determination of direction of rotation.
Elevator ..... Move briskly forward
Move elevator briskly forwar to break the stall
Full down elevator may be req. at aft CG loading
Rudder, Elevator ..... Hold until rotation stops
premature relaxation may extend recovery
- when rotation stops:
  Rudder.....Neutralize
  Flightpath .....Recover smoothly

Door open

Speed..... 75 kts
Door .....Close
Push door outward, then close door

Precautionary Landing / Ditching

Normal Checklist included

Heavy equipment ..... Secure
jettison as required
Life vests ..... Put on
Fuel Selector ..... BOTH
Mixture ..... RICH
Carburetor Heat ..... As required
Lights ..... As required
Approach Briefing ..... Completed
Altimeter ..... QNH___, ___ ft
Seats ..... Upright, locked
Seatbelts ..... Tighten
Flaps ..... 20°
Speed ..... 60 kts
Landing site ..... Select, overfly
Autopilot, Avionic ..... OFF
ELT ..... ON
Flaps/Speed ..... FULL/55 kts
with Flaps UP add 5 kts
Approach ..... Parallel to swells
- **if high winds, heavy seas:**
  Approach ..... Into the wind

Sinkrate ..... appr. 300 ft/min
- **when landing is assured:**
  Master (Bat, Alt) ..... OFF
  Doors ..... Unlock
  Touchdown ..... lowest poss. speed
  Mixture ..... CUTOFF
  Throttle ..... IDLE
  Ignition ..... OFF
  Face ..... Cushion

Fuel low

Land at nearest suitable airfield

Fuel flow fluctuating

Fluctuation ≥ 1 GPH

Fuel Pump ..... ON
Mixture ..... Readjust
Fuel Selector ..... BOTH
- **if fuel flow stable:**
  Fuel Pump ..... OFF

Rough Engine
Loss of engine power

- **Magnetos/Ignition:**
  Ignition ..... CHK on L, R, BOTH
  Mixture ..... Readjust
  for smooth engine operation
  - **if engine still runs rough:**
    Mixture ..... Enrich
    Ignition ..... BOTH
    Land at nearest suitable airfield
- **Carburetor icing:**
  Throttle ..... Consider Full OPEN
  Carburetor Heat ..... ON
  - **if engine still runs rough:**
    Carburetor Heat ..... As required
    Mixture ..... As required

Inadvertent Icing Encounter

Flight into icing conditins prohibited

Pitot-Heat ..... ON
Turn back or change altitude
leave icing conditions ASAP
Cabin Heat ..... ON
Deicing vent ..... OPEN
Throttle ..... Increase power
to prevent ice buildup on propeller blades
Carburetor Heat ..... ON as req.
Mixture ..... As required
Land at nearest suitable airfield
- **if extreme ice buildup:**
  Consider Precautionary Landing
  Flaps ..... UP / do not extend
- **if ice accumulation at wing leading edge > 0,5 cm:**
  Approach speed ..... Increase
  Required power ..... higher
  Stall Speed V_S ..... Increased
- **if ice accumulation on windshield:**
  Left window ..... Open
  Ice on windshield ..... Scrape off
  to retain visibility for landing
- **for landing:**
  Forward-Slip ..... As required
  Speed ..... ≤ + 10 kts
  depending on ice accumulation
  Perform landing in level attitude

ELEC Power Supply Malfunction

Ammeter ..... CHK
♦ Ammeter ind. excessive charge:
> 2 needle widths of charging current
Avionics Master ..... OFF
Master (Bat, Alt) ..... OFF, then ON
♦ if Over-Voltage Light OUT:
Avionics Master ..... ON
♦ if Over-Voltage Light ON:
Generator (Alt) ..... OFF
ALT. Circuit breaker ..... Pull
Electrical Equipment ..... OFF
leave only essential equipment on
Land at nearest suitable airfield
♦ Ammeter indicates discharge (negative values) or large fluctuations or Low-Voltage Light ON (< 24,5 V):
Avionic ..... OFF
ALT Circuit breaker ..... CHK in
Master (Bat, Alt) ..... OFF, then ON
♦ Low-Voltage Light OUT:
Avionic ..... ON
♦ Low-Voltage Light ON:
Generator (Alt) ..... OFF
Electrical Equipment ..... OFF
leave only essential equipment on
Land at nearest suitable airfield

Static Port blocked

Pitot-Heat ..... ON
Alternate Static Valve ..... PULL ON
V/S Indicator ..... Smash glas
Speed ..... CHK
see POH-Performance for correction of airspeed
Altitude (Cruise) ..... + 50 ft
Altitude (Approach) ..... + 30 ft

Suction low

VAC Indication < 4,5" (green area)
Autopilot ..... OFF
Horizon ..... Unreliable
Heading Indicator ..... Unreliable
Turn Coordinator ..... Use
Magnetic compass ..... Use
Throttle ..... Increase power
Descent ..... if required
to maintain suction in green arc

Landing with damaged tire

Approach ..... Perform normal
♦ Main tire damaged:
Flaps ..... 30°
Touchdown ..... with good wheel
keep damaged tire in the air as long as possible
♦ Nose tire damaged:
Flaps ..... As required
Touchdown ..... on main tires
keep nose tire in the air as long as possible
• after nose tire touches down:
Elevator ..... Full UP

Landing without Elevator control

Control aircraft with Elevator Trim and Throttle, plan a long final
Normal Checklist included
Cabin ..... Prepared
Fuel Selector ..... BOTH
Mixture ..... RICH
Carburetor Heat. ..... As required
Lights ..... As required
Approach Briefing ..... Complete
Altimeter ..... QNH___, ___ ft
Seats ..... Upright, locked
Seatbelts ..... Tighten
Speed ..... 80 kts
Horizontal flight ..... Achieve with Elevator trim and throttle
Throttle ..... As required
Rate of descent < 500 ft/min
Elevator trim ..... Do NOT change
• for landing:
Throttle ..... Close
Elevator trim ..... Nose-up to touchdown attitude