Checkliste Virus SW 100 HB-WZH

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AIRCRAFT PREPARATION

1. Engine Oil Level .....CHECKED
2. Propeller.....CHECKED
3. Engine, Engine Cover .....CHECKED
4. Under Carriage & Tires .....CHECKED
5. Wings.....CHECKED
6. Flaperons .....FREE of MOVEMENT
7. Pitot Tube Cover.....REMOVED
8. Static Ports.....CLEAR
9. Fuel Quantity, Fuel Filler Cap.....CHECKED and LOCKED
10. Fuel System .....DRAINED
11. Horizontal and Vertical Stabilizer .....CHECKED
12. Fuselage.....CHECKED
13. Elevator and Rudder .....FREE of MOVEMENT
14. Weight and Balance .....ACCORDING AFM
15. Baggage Door .....CLOSED

COCKPIT PREPARATION

1. Parking Brake .....SET
2. Rudder Pedals .....ADJUSTED
3. Ballistic Rescue System.....UNSECURED
4. Seat Belts Pilot & PAX .....FASTEN
5. Electrical Consumers.....OFF
6. Circuit Fuses .....ALL IN
7. Fuel Quantity.....CHECKED
8. Fuel Valve.....BOTH or LEFT OPEN
9. Flight Controls.....FLAPERONS CORRECT
10. Trim.....SET FOR TKOF

ENGINE START

1. Choke.....ON (cold) / OFF (hot)
2. Power Lever.....IDLE (cold) / 1 CM PUSH (hot)
3. Propeller Area.....CLEAR
4. Master Switch.....ON
5. Ignition.....START
6. Power Lever.....2300 RPM
7. Avionics Switch.....ON, SET
8. Transponder Mode.....STBY, 7000
9. Next Maintenance.....CHECKED
10. Oil Pressure.....GREEN ARC
11. COM.....ON, SET
12. ATIS.....RECEIVED
13. Flight Instruments.....CHECKED
14. GPS Flight Plan & Skyview.....SET
15. Choke.....OFF
16. Navigation & AC Lights.....ON

… TWR/GND | HB-WZH | pos | VFR to … | information … | request taxi

TAXI CHECK

1. Wheel Brakes.....CHECKED
2. Compass / HSI.....CHECKED

ENGINE RUN-UP

1. Parking Brake.....SET
2. Engine Oil Temperature.....> 50°C or 4 Minutes
3. Power Lever.....3800 RPM
4. Engine Instruments.....CHECKED
5. Magnetos.....DROP <300 RPM; Δ <150 RPM
6. Propeller Control Unit.....MANUAL: 500 RPM DROP
7. Propeller Control Unit.....AUTO: 5700 RPM
8. Propeller Control Unit.....GREEN LIGHT ON
9. Power Lever.....IDLE: < 1800 RPM
10. Power Lever.....2300 RPM

CHECK BEFORE DEPARTURE

1. Seat Belts .....FASTEN
2. Doors / Windows .....CLOSED
3. Fuel Quantity.....CHECKED
4. Fuel Valve.....BOTH or LEFT OPEN
5. Flight Controls.....CLEAR
6. Trim.....SET FOR TKOF
7. Flaps .....9°
8. Spoilers .....RETRACTED and LOCKED
9. Autopilot.....DISENGAGE
10. TKOF Briefing .....COMPLETED
    1. Wind
    2. Normal TKOF on RWY …
    3. v_{ROT} = 45 KIAS; $v_{INITIAL\ CLIMB}$ = v_X = 60 KIAS; v_Y = 80 KIAS
    4. Climbing at …; Outbound …
    5. In Case of Malfunction BEFORE Lift-Off …
       In Case of Engine Failure AFTER Lift-Off …

Emergency Landing: $v_{Best\ Glide}$ = 66 KIAS Flaps 0° or 9°

H-ZH | holding point … | ready for departure | outbound …

LINE-UP CHECK

1. Approach Sector .....CLEAR

TAKE-OFF

1. **Power Lever .....FULL FORWARD**
2. **Engine RPM.....> 5500 RPM**
3. **Speed.....RISING**

CLIMB CHECK

1. **Altitude .....> 300 FT AGL / CLEAR OBST**
2. **Speed.....80 KIAS**
3. **Flaps .....0°**
4. **Power Lever .....< 26 INCH**
5. **Propeller Control Unit .....AUTO: 5400 RPM**
6. **Autopilot.....AS REQUIRED**

H-ZH | pos & alt … | leaving CTR

CRUISE CHECK

1. **Flaps .....-5°**
2. **Engine Instruments.....CHECKED**
3. **Power Lever .....< 25 INCH**
4. **Propeller Control Unit .....AUTO: 4800 RPM**
5. **Fuel Valve.....BOTH or LEFT OPEN**

Power & Propeller Setting in Cruise:

Normal Cruise:	**4800 RPM**	**⇔**	**23 … 25 IN**	**⇔**	**120 KTAS**
Economy Cruise:	**4600 RPM**	**⇔**	**< 22 IN**	**⇔**	**105 KTAS**

… information | HB-WZH | |
H-ZH | PIVI | VFR from … to … | pos & alt | routing … | request

Five T's **Turn – Time – Twist – Throttle – Talk**

Descent: $v_{DESCENT}$ = 120 KTAS / 500 FPM

DESCENT CHECK

1. ATIS .....RECEIVED
2. APPR Briefing .....COMPLETED
   1. Wind
   2. RWY in use
   3. Final APPR Speed
   4. APPR Configuration
   5. Routing
   6. Point of Descent
3. Altimeter .....QNH or QNE
4. Avionics & GPS .....PREPARED
5. Cabin & PAX.....SECURED
6. Lights.....AS REQUIRED

… TWR | HB-WZH | pos & alt | VFR from … | information … | for landing

Traffic Pattern: $v_{DOWNWIND}$ = < 90 KIAS v_{BASE} = < 70 KIAS

APPROACH CHECK

1. Altimeter .....QNH
2. Lights.....AS REQUIRED
3. Fuel Quantity.....CHECKED
4. Fuel Valves.....BOTH OR LEFT OPEN

H-ZH | reporting point …

Short Final: v_{FIN} **= 52 KIAS** + half wind speed; increase speed by 5 KIAS for wings covered with water or insects

FINAL CHECK

1. **Flaps .....18° (MAX 59 KIAS) or 9°**
2. **Propeller Control Unit .....5700 RPM; GREEN LIGHT**
3. **Autopilot.....OFF**
4. **Power Lever .....IDLE**
5. **Spoilers .....AS REQUIRED**

G/A CHECK

1. **Spoilers .....RETRACTED and LOCKED**
2. **Power Lever .....FULL FORWARD**
3. **Speed.....60 KIAS**
4. **Flaps .....9°**

AFTER LANDING CHECK

1. **Flaps .....0°**
2. **Unnecessary Electrical Consumers .....OFF**

ENGINE SHUT DOWN AND PARKING CHECK

1. **Parking Brake .....SET**
2. **Power Lever .....2300 RPM**
3. **COM2 & Transponder .....OFF**
4. **Power FLARM .....OFF**
5. **COM 121.50 MHz.....CHECKED**
6. **COM1 & Audio Panel.....OFF**
7. **Flight Time .....NOTED**
8. **Avionics Switch.....OFF**
9. **Power Lever .....IDLE**
10. **Ignition.....OFF**
11. **Master Switch .....OFF**
12. **All Switches .....OFF**
13. **Ballistic Rescue System .....SECURED**
14. **Fuel Valve.....LEFT OPEN; RIGHT CLOSED**
15. **Airplane's Log Book .....COMPLETED**
16. **Pitot Tube Cover.....SET (outdoor parking only)**

EMERGENCY PROCEDURES

ENGINE FAILURE IN FLIGHT

1. Speed.....66 KIAS (= best glide)
2. Landing Field .....SELECTED

If possible, proceed as follow:

3. Master Switch .....ON
4. Magnetos.....BOTH ON
5. Fuel Valves.....BOTH OPEN
6. Fuel Pump .....ON
7. Ignition.....START

If unsuccessful continue with EMERGENCY LANDING

ENGINE FIRE IN-FLIGHT

1. Power Lever .....FULL FORWARD
2. Fuel Valves.....BOTH CLOSED

After Engine stops running:

3. Magnetos.....BOTH OFF

Continue with EMERGENCY LANDING

EMERGENCY LANDING

1. Speed.....66 KIAS (= best glide; flaps 0°)
2. Landing Field .....SELECTED
3. Fuel Valves.....BOTH CLOSED
4. Master Switch .....OFF
5. Seat belts.....TIGHTENED
6. Speed .....66 KIAS

After Landing:

7. Leave the Airplane .....IMMEDIATELY

EMERGENCY PROCEDURES

STOP SPINNING (P-A-R-E)

1. P Power Lever.....IDLE
2. A Aileron (Querruder) .....NEUTRAL
3. R Rudder (Seitenruder).....FULL OPPOSITE
4. E Elevator (Höhenruder).....PULL GENTLY

ENGINE FIRE ON GROUND

1. Fuel Valves.....BOTH CLOSED
2. Power Lever .....FULL FORWARD
3. Battery .....PULL DISC

After Engine stops running:

4. Master Switch .....OFF
5. Leave the Airplane .....IMMEDIATELY

SMOKE IN COCKPIT

1. Master Switch .....OFF
2. Battery .....PULL DISC
3. Land .....AS SOON AS POSSIBLE

CARBURETOR ICEING

RPM drop without altitude or speed change.

1. Descend to warmer and/or less humid air
2. If unsuccessful continue with EMERGENCY LANDING

Speed Limitations

v_{ROT} **= 45 KIAS .....**with flaps 9°
v_X **= 58 KIAS .....**best angle of climb @ Flaps 9°
v_Y **= 80 KIAS .....**best rate of climb @ Flaps 0°
v_{BG} **= 66 KIAS .....**best glide with flaps 0° or 9°
v_{FIN} **= 52-59 KIAS .....**final approach; flaps 18°

v_A **= 94 KIAS .....**full control surface deflection; maneuvering speed
v_B **= 135 KIAS .....**turbulence penetration speed
v_{FE} **= 70 KIAS .....**flaps 9° extended (white arc)
v_{F18} **= 59 KIAS .....**flaps 18° extended
v_{AE} **= 110 KIAS .....**spoilers extended

v_{NE} **= 163 KIAS .....**@ sea level
v_{NE} **= 149 KIAS .....**@ 6'600 ft AMSL
v_{NE} **= 135 KIAS .....**@ 13'100 ft AMSL
v_{XW} **= 18 KIAS .....**max. demonstrated cross-wind component

@ MTOM = 600 kg
v_{S0} **= 40 KIAS .....**stall speed in landing configuration (flaps 18°)
v_{S1} **= 49 KIAS .....**stall speed with flaps 0°

Recommended Settings

Phase of Flight	RPM	Manifold	Speed	ROC	Flaps
Take-off	**5'700**	**MAX**	**Rising**	n/a	**+9°**
short field TKOF	**5'700**	**MAX**	**Rising**	n/a	**+18°**
Rotate	**5'700**	**MAX**	**45 KIAS**	n/a	**+9°**
Initial Climb	**5'700**	**MAX**	**60 KIAS**	n/a	**+9°**
Climb	**5'400**	**< 26 IN**	**80 KIAS**	n/a	**0°**
Cruise Climb	**5'200**	**< 25 IN**	n/a	**< 500 fpm**	**-5°**
Normal Cruise	**4'800**	**23 …25 IN**	**120 KTAS**	**0 fpm**	**-5°**
Economy Cruise	**4'600**	**< 22 IN**	**105 KTAS**	**0 fpm**	**-5°**
Descent	**4'800**		**120 KTAS**	**-500 fpm**	**-5°**
Traffic Pattern	**4'800**	n/a	**< 90 KIAS**	n/a	**0°**
Base	**4'800**	n/a	**< 70 KIAS**	n/a	**+9°**
Final	**5'700**	n/a	**52-60 KIAS**	n/a	**+18°**

AUTOPILOT: TRK MODE and ALTITIDE

1. Heading .....STEER HDG TO HOLD
2. Roll Axis Mode .....SYNC: SELECTED
3. Roll Axis Mode.....TRK: SELECTED
4. Pitch Axis Mode.....SYNC: NOT SELECTED
5. Pitch Axis Mode.....VS: BUG SELECTED
6. Vertical Speed Bug.....SET
7. Roll Axis Status .....ON
8. Pitch Axis Status .....ON

AUTOPILOT ROLL AXIS: GPS NAVIGATION

1. Garmin 695 .....SET NAVIGATION POINT(S)
2. Heading .....STEER HDG TO NEXT WPT
3. Roll Axis Mode.....NAV: SELECTED
4. Pitch Axis Mode.....SYNC: NOT SELECTED
5. Pitch Axis Mode.....VS: BUG SELECTED
6. Vertical Speed Bug.....SET
7. Roll Axis Status .....ON
8. Pitch Axis Status .....ON