1. Preflight Piper PA28

TQ: Throttle Quadrant; TT: Tact&Toggle (RS=Rote Schalter, 1..3 oben 4...6 unten)

Treibstoff / Ladung (Shift-4 !)	CHECK (75%: 12 gph; 55%: 9 gph)	
Achtung ! **Beide Tanks gleich voll**, sonst Stabilitätsprobleme !		
Parking brake	SET	
Steuer entriegeln	UNLOCK (Copilot-Gurt)	
Werkstatt	Shift-7	
Battery Master switch (TT: RS1)	ON	
Fuel (Copilot Side)	CHECK	
Battery Master switch (TT: RS1)	OFF	
Flaps (TQ: roter Hebel rechts)	FULL (for inspection)	
Interactive preflight inspection	Shift-8	Flugzeug-Umgehung
Flaps (TQ: roter Hebel rechts)	UP	
Battery Master switch (TT: RS1)	ON	
Cabin light (TT: T5)	ON IF NECESSARY	
Red light (TT: T6)	ON IF NECESSARY	
Nav+Instrument Lights (TT: T1)	ON	
Beacon (TT: T2)	ON	
Carburetor Heat (TQ: 4)	FULL IN (OFF)	
Auswahl Benzintank (Hebel unter Tür)	FULLEST TANK	
Mixture (TQ: roter Hebel)	FULL RICH (COLD)	
	IDLE CUT OFF (HOT/FLOODED)	
Magnetos (TQ: 19=up, 20=dn)	BOTH	
Gashebel (TQ: schwarzer Hebel)	1-1,5 cm rausziehen	
Electric fuel pump (TQ: 17)	ON	
Mech. Einspritzung	2-3x	BELOW 5 °C
Starter (TQ: 21)	PUSH	
Oil Pressure	CHECK	
RPM	800-1000	
Amperemeter	CHECK	

2. Runup

Parking brake	CHECK
Warm-Up	2 MINUTES (800-1200 RPM)
Gyro Suction (Copilot, ganz rechts)	5' hg +/- 1' hg
Oil temperature/pressure	CHECK
Amperemeter	CHECK
Controls	FREE AND CORRECT
Trim Wheel	TO-POSITION
Avionics Master (TT: RS4)	ON
Avionics	SET
Altimeter	SET (ATIS / AS16)
Heading	SET
Autopilot Master (TT: RS5)	ON
Throttle	2000 RPM
Check magnetos (TQ: 19=up, 20=dn)	LEFT/RIGHT/BOTH

3. Taxi

Transponder	STBY
Flaps (TQ: roter Hebel rechts)	CHECK UP
Mixture (roter Hebel)	CHECK RICH
Carburetor heat	CHECK OFF
Fuel tank	CHECK FULLEST
Electric fuel pump (TQ: 17)	CHECK ON
Engine Gauges	CHECK NORMAL
Altimeter/Heading	CHECK
Controls free	CHECK
Clearance from Ground	GET
Landing Light (TT: T11)	SET

4. Take-Off / Climb

Transponder	ALT
Flaps	AS REQUIRED
Pitot Heat (TQ: 3)	AS REQUIRED
Strobe (TT: T8)	SET
Landing light (TT: T11)	ON
Rotate	60-65 mph
Climb	85 mph
Autopilot (TT: A1=Mode)	ON IF REQUIRED
Electric fuel pump (TQ: 17)	OFF
Landing light (TT: T11)	OFF

5. Cruise

Mixture (roter Hebel)	LEAN TO 50° ROP (Rich-of-Peak)
Fuel tank	SWITCH TO FULLEST
Carburetor Heat	ONLY IF REQUIRED
Autopilot Mode Select (TT: A2)	STABLE , HEADING, TRACK LO/HI
Autopilot Altitude Hold (TT: B3)	IF REQUIRED
Autopilot Disconnect (TT: A1)	IF REQUIRED

6. Approach / Landing

Downwind Leg:

Landing light (TT: T11)	ON	
Electric fuel pump (TQ: 17)	ON	
Flaps	10° BELOW 115 MPH	
Throttle	1700 RPM	
Carburetor Heat (TQ: 4)	IF REQUIRED	
Speed	95 mph	= 83 kias

Base Leg:

Mixture (roter Hebel)	RICH	
Electric fuel pump (TQ: 17)	CHECK ON	
Flaps	20°	
Fuel tank	SWITCH TO FULLEST	
Speed	80-95 mph	= 70-83 kias

Final:

Flaps	40°	
Carburetor Heat (TQ: 24)	IF REQUIRED	
Speed	70 mph	= 60 kias
"over airport fence...flare"	65...55 mph	= 52...48 kias

After Landing:

Flaps	UP
Electric fuel pump (TQ: 17)	OFF
Transponder	STBY

After Taxi:

Landing light (TT: T11)	OFF
Strobe (TT: T8)	OFF
Autopilot Master (TT: RS5)	OFF

7. Go-Around

Throttle	FULL
Flaps	RETRACT SLOWLY

8. Shutdown

Transponder	OFF
Radios	OFF
GPS	OFF
Avionics Master (TT: RS4)	OFF
Electrical Equipment	OFF
Throttle	IDLE
Mixture	LEAN CUTOFF
Carburetor Heat (TQ: 4)	OFF
Magneto (TQ: 19/20)	OFF
Fuel (Tank Selector)	OFF
Beacon (TT: T2)	OFF
Nav+Instrument Lights (TT: T1)	OFF
Cabin light (TT: T5)	OFF
Red light (TT: T6)	OFF
Battery Master (TT: RS1)	OFF

Optional: Festzurren (Shift-8)

Appendix A. Avionic Instruments

A.1 S-TEC System 30 autopilot

- Rate based two axis autopilot
- Stabilizer Mode (maintains turn rate)
- Heading Hold Mode
- Low Track Mode
- High Track Mode
- Alt Hold

Horizontale Modi:

ST: hält aktuelle Fluglage (nur horizontal !)
HD: fliegt nach Heading-Bug
TRK LO: OBS-Kurs wird mit "minimum authority" gehalten, d.h. kleinere Kursabweichungen werden toleriert und nicht sofort ausgeglichen
TRK HI: VOR/LOC/GPS-Kurs wird strikt gehalten. Dazu muss der Kurs bereits mit HD grob geflogen werden (+/- 10° Abweichung).

Vertikaler Modus:

ALT: Halten der aktuellen Höhe. Kein Trim, nur leichte Korrektur über Stabilizer.

Leuchten gelbe **TRM**-Lampen, wird Trimmung
je nach Lampe manuell korrigiert:
UP: Flugzeugnase nach oben (Trimwheel nach hinten)
DN: Flugzeugnase nach unten (Trimwheel nach vorne)

Achtung ! Kein ILS-Anflug ! Nur LOC (horizontales Tracking)

A.2 Davtron M903 Indicator

- Displays current radial TO/FROM VOR station
- Alphanumeric station identifiy
- Localizer deviation and centerline for ILS apporaches

Umschalter **NAV1 <-> NAV2**: Anzeige des Radials, auf dem man fliegt
Umschalter **TO <-> FR**: Anzeige des Radials in To-/From-Richtung
Buchstaben neben Radial ergeben nacheinander gelesen die VOR-Kennung
Für ILS: "**b-**" links -> fly right ; "**-b**" rechts -> fly left ; drei Striche: auf Gleitpfad

A.3 Astrotech LC-2 clock

- 12/24 format (depends on metric/imperial setting in the payload manager)
- Date Display
- 24-hour elapsed timer
- backlight (!)

Mode-Taste: Clock- vs. Timer-Mode
ST/SP : Start/Stop Timer ; **RST** : Reset Timer

A.4 Bendix King Radio Stack

- KM 24 audio selector panel
- Two KX 155 COM/NAV units
- KR 87 ADF with flight timer and elapsed timer.
- KN 64 DME which can be tuned remotely from NAV1 receiver or
  tuned directly with frequency knobs (independent from NAV1/NAV2 radios).
- KT 76 Transponder

Appendix B. Airspeeds

B.1 Takeoff:

Vs (stall speed, normal config.)	64 mph
short field T/O, flaps 25°	74 mph
Vx (best angle of climb)	76 mph
Vy (best rate of climb)	85 mph
normal climb out	100 mph

B.2 Flight:

Va (manoevering speed at gross weight.)	129 mph
Vno (max. structural cruising speed)	140 mph
Vne (never exceed speed)	171 mph

B.3 Approach:

Vbg (best glide speed)	83 mph
Vfo (max. flap extension speed)	115 mph
Vso (stall speed, landing config.)	55 mph
normal landing approach, flaps up	85 mph
normal landing approach, flaps 40°	76 mph
short field approach, flaps 40°	76 mph
max. demonstrated crosswind velocity	17 kts

Appendix C. Manuals

Autopilot:
http://a2asimulations.com/downloads/manuals/STEC%2020-30-30alt.pdf
DVOR:
http://www.davtron.com/cmsAdmin/uploads ... ochure.pdf
Clock:
http://www.adstcoil.com/admin/userfiles ... uction.pdf

Bendix King Silver Crown Plus Avionics,
you can use it for ADF and DME operation:
https://dealer.bendixking.com/servlet/c ... 0000_5.pdf