

Checklist Items • Informational Items • Critical Memory Items

PREFLIGHT COCKPIT CHECK (DO-LIST)

Pitot Cover & Cowl Plugs -- REMOVE and STOW

Required Documents -- On Board

All Electrical Switches -- OFF

Air Conditioner -- OFF

Fan -- OFF

Fire Extinguisher -- Charged and Available

Emergency Egress Hammer -- Available

Alternate Air -- NORMAL

Alternate Static Source -- NORMAL

Magneto Switch -- OFF

Bat 2 Master Switch -- ON

Avionics Cooling Fan -- Audible

PFD -- Verify ON

Voltmeter -- 23-25 Volts

Flap Position Light -- OUT

Bat 1 Master Switch -- ON

Circuit Breakers -- CHECK IN

Fuel Quantity -- CHECK

Fuel Selector -- Select Fullest Tank

Flaps -- 100%, Check Light ON

Oil Annunciator -- On

Annunciator Panel -- TEST

Pitot Heat, Interior & Exterior Lights -- CHECK

All Electrical Switches -- OFF

Bat 1 and 2 Master Switches -- OFF

BEFORE STARTING ENGINE (FLOW PATTERN)

Preflight Inspection -- COMPLETED

Tow Bar, Chocks, Pitot Cover & Cowl Plugs -- REMOVED &
STOWED

Weight and Balance -- VERIFY WITHIN LIMITS

CAPS Handle -- Pin Removed, Cover In Place

Seats, Seat Belts, and Shoulder Harnesses -- ADJUST AND SECURE

Passengers -- BRIEFED

STARTING ENGINE (DO-LIST)

Brakes – HOLD or SET
Bat Master Switches -- ON (Check Volts)
Strobe Lights -- ON
Mixture -- FULL RICH
Power Lever – FULL FORWARD
Fuel Pump -- PRIME 2 seconds (Omit priming if engine is warm)
Fuel Pump -- BOOST
Power Lever – OPEN 1/4"
Propeller Area -- CLEAR
Ignition Switch -- START (release when engine starts)
Power Lever – 1000 RPM
Oil Annunciator -- OFF
Alt Master Switches – ON
Alternator 1 caution light OFF, Alternator 2 caution light ON
Avionics Power Switch -- ON
Fuel Pump -- OFF
Flaps -- UP
Environmental Controls -- SET as required
Interior, Navigation, and Landing Lights -- ON as required
MFD – At prompt press any bezel key, set fuel level
Alternator Output – CHECK BOTH
GPS 1 & 2 – Confirm self-tests
Set Communication Radios:
Listen to ATIS/AWOS/ASOS
PFD Baro Set & Standby Altimeter -- SET to setting given by ATC
IFR Clearance -- RECEIVED
GPS – Flight plan programmed & activated
Navigation Radios – SET to appropriate VOR frequencies

AUTOPILOT TEST (FLOW PATTERN)

Heading Mode

Sync HDG Bug on lubber line
Select HDG Mode on autopilot mode controller
Rotate Heading Bug left and right of current heading, verify
proper roll control inputs
Sync HDG Bug on lubber line

Vertical Speed

Select VS mode on autopilot mode controller
Set VSI Bug to + 300 fpm then to –300 fpm
Verify proper pitch control inputs

Altitude Hold

- Select ALT mode on autopilot mode controller
- Verify ALT annunciation, VS annunciation extinguishes, and stationary yoke

Overpower

- Grasp control yoke and move in all directions. Action should be smooth in all directions with no noise or jerky feel

Radio Check

- Tune to a valid NAV station
- Select VLOC on HSI display
- Select NAV mode on autopilot mode controller
- Turn CDI left and right of course verifying roll inputs in direction of needle adjustment

Autopilot Disconnect Check

- Press Pilot A/P DISC switch, verify disconnect
- Select HDG and ALT mode on autopilot mode controller
- Engage pitch trim, verify disconnect

TAXIING (FLOW PATTERN)**Before Taxiing:**

- Switch Fuel Tanks
- Parking Brake – OFF

CHECK brakes immediately after airplane begins moving

During Turns While Taxiing:

- Attitude Indicators – Indicate <5° of bank in direction of turn
- Skid/Slip Indicator -- Indicates skidding turn in proper direction
- HSI -- Turns in proper direction
- Magnetic Compass -- Turns in proper direction

RUN-UP (DO-LIST)

MFD – ENGINE PAGE

Power Lever -- 1700 RPM

- Pitot Heat, Navigation & Landing Lights -- ON
- Verify Alternator caution lights out
- Verify positive amps and proper voltages for both alternators
- Pitot Heat, Navigation & Landing Lights -- OFF unless required
- Magnetos – Check (max drop 150 RPM, max diff. 75 RPM)
- Engine Parameters -- CHECK

Power Lever -- 1000 RPM

MFD – MAP PAGE

SET FLIGHT INSTRUMENTS (DO-LIST)

Standby Airspeed Indicator – indicates 0 KIAS
Standby Attitude Indicator – CAGE
Standby Altimeter – Should read within 75' of field elevation
PFD Airspeed Indicator – indicates 0 KIAS
PFD Altimeter – Should read within 75' of field elevation
HSI – Check heading with magnetic compass

BEFORE EACH TAKEOFF (DO-LIST)

Communication Radio – Tower or CTAF
Autopilot – DISCONNECTED
Flight controls -- FREE AND CORRECT
Elevator and Aileron Trim – SET FOR TAKEOFF
Flaps – SET 50% and CHECK
Fuel Quantity -- CONFIRM
Fuel Pump -- BOOST
Fuel Selector -- FULLEST TANK
Transponder – SET to assigned code or 1200
GPS – Flight plan programmed & activated
Navigation Radios – SET to appropriate VOR frequencies
Communication Radios – SET to appropriate frequencies
CRS -- SET
Traffic on MFD and GPS -- NORMAL
Heading Bug – SET to runway heading
Altitude & VSI Bugs -- SET
Landing Light – ON
Pitot heat -- AS REQUIRED
Parking Brake – OFF
Cabin Doors -- CLOSED AND LATCHED
Air Conditioner -- OFF
Mixture – MAXIMUM POWER FUEL FLOW

OPERATING SPEEDS

Rotation – 70-73 KIAS
Engine Out Glide – 88 KIAS
Best angle (V_x) – 78 KIAS
Best rate (V_y) – 101 KIAS

CLIMB (FLOW PATTERN)

Flaps – UP after clear of obstacles & airspeed > 80 KIAS
Airspeed – 110-120 KIAS
Power Lever -- 2500 RPM
Fuel Pump -- OFF (unless required on hot days because of vapor)
Landing Light – AS REQUIRED
Mixture – MAINTAIN TAKEOFF EGT (usually 1350° F)

CRUISE (FLOW PATTERN)

Mixture: Best Power: 75° F Rich Of Peak EGT
Best Economy: 50° F Lean Of Peak EGT
Standby Attitude Indicator – SET for level flight

HOODWORK

Climb at 2500 RPM, 25" MP, 120 KIAS
Cruise at 20" MP, 135 KIAS
Descend at 10" MP, 130 KIAS

INSTRUMENT APPROACH BRIEFING (DO-LIST)

Approach Name
Airport, City & State
Chart Current (Y/N)?
NAVAID Frequency (NAV 1):
Approach Course
ID Verified (Y/N)?
Supporting NAVAID Frequency (NAV 2):
OBS Setting:
ID Verified (Y/N)?
Communications Frequencies
Approach/Center (COM 2)
ATIS/AWOS/ASOS (COM 1)
Tower/CTAF (COM 1)

MDA or DA
Missed Approach

BEFORE LANDING OR IAF (FLOW PATTERN)

Listen to destination ATIS/ AWOS/ ASOS
PFD Baro Set & Standby Altimeter – SET
Seats, Seat Belts, and Shoulder Harnesses -- ADJUST AND LOCK
Mixture – RICH or set for altitude
Fuel Pump -- BOOST
Fuel Selector Valve -- FULLEST TANK
Strobe and Landing Lights – ON

INSTRUMENT APPROACH (FLOW PATTERN)***Activate Approach in GPS***

Initial Approach Segment, Holding – 15" MP, Flaps UP, 110 KIAS

Deploy Flaps Just Before FAF or GS Intercept

ILS Glide Slope – 12" MP, Flaps 50%, 100 KIAS

Descent to MDA after FAF – 10" MP, Flaps 50%, 100 KIAS

Maintain MDA – 18" MP, Flaps 50%, 100 KIAS

Altitude Bug -- SET to Missed Approach Altitude

MISSED APPROACH (MEMORY)

Autopilot – DISCONNECTED

Power Lever -- FULL OPEN

Pitch – 5° UP

Flaps – UP after a positive rate of climb is established

Press SUSP on Garmin 430

Autopilot – GPSS, VS-ALT

NORMAL LANDING (FLOW PATTERN)

Airspeed – < 120 KIAS before entering pattern or starting approach

Air Conditioner -- OFF

Autopilot -- DISENGAGED

Mixture – RICH or set for altitude

Flaps – 50% under 120 KIAS, 100% under 100 KIAS

APPROACH SPEEDS

No flaps -- 95-90 KIAS

50% flaps -- 90 -85 KIAS

100% flaps -- 85-80 KIAS

Short Field with 100% flaps --77 KIAS

BALKED LANDING (MEMORY)

Power Lever -- FULL OPEN

Flaps -- 50%

Airspeed -- 75-80 KIAS

Flaps -- UP after clear of obstacles

AFTER LEAVING RUNWAY (FLOW PATTERN)

Flaps -- RETRACT

Fuel Pump -- BOOST

Landing Light -- OFF

Pitot heat -- OFF

SHUTDOWN (DO-LIST)

@ KDVT Call Cutter for fuel on 122.95

Air Conditioner -- OFF

Fan -- OFF

Avionics Power Switch -- OFF

Lights -- OFF (except strobe lights)

Fuel Pump -- OFF

Power Lever -- IDLE

Mixture -- IDLE CUT-OFF

Magneto Switch -- OFF (after propeller stops turning)

Strobe Lights -- OFF

Bat-Alt Master Switches -- OFF

CAPS Handle -- Pin IN

Local Frequencies:				
	KDVT	KCGZ	P08	KIWA
ATIS/AWOS/ASOS	126.50	132.175	119.35	133.50
Tower/CTAF	120.20 (north) 118.40 (south)	122.70	123.075	120.60
Ground	121.80	N/A	N/A	128.25
Clearance Delivery	123.90	N/A	N/A	135.05
I-CGZ	111.15			
I-IWA	110.15			
TFD	114.80			
IWA	113.30			
PXR	115.60			
PHX Approach	120.70 (north) 123.70 (south)			
Luke Approach	118.15			
Practice area	122.75 (north) 122.85 (south)			

Radials from PXR:

V327 (RADOM) = R-359

V257 (AVENT) = R-336

V105 (N) (KARLO) = R-321, (S) = R-163

V16 (AVONA) = R-216

V16 (TOTEC) = R-034