

≈ FS2004 ≈

Cloudy's Checklists

B. Modern Piston-Engine Airplanes



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I started working on checklists even since Flight Simulator 98, amazed by

- 1) the glaring omissions: if there is a control in your instrument panel, surely the checklist should mention it, especially if the control is mentioned in the real-life checklist and is indeed functional in Flight Simulator!
- 2) inconsistencies between similar actions in similar aircraft.
- 3) differences - sometimes significant - between checklist or reference values and the actual performance of the aircraft in Flight Simulator.

Also, FS2004's kneeboard can be useful for quick info, but given the limited real estate of our PC screens, I find reading checklists from the kneeboard annoying. Besides, in FS2004, when the kneeboard is on, many flight control functions are not available.

So I went for a final result in MS Word format which can be used as a printed booklet. It covers most of the default FS2004 aircraft except the three Boeing airliners. A few outstanding propeller add-ons are also included. This document is meant to be colour-printed in A4 paper. You may print it either in large type at one sheet per page, or better in "booklet two-sided" format, 4 pages fitting into one A4 sheet.

I have tested my checklists with my own Rational Panels, some of which are free for download from the "Cloudy" website. If you use other panels you will find that a few gauges which I mention may not be there: typically the digital trim. However, you can always edit and amend my checklist booklet to suit your tastes: you only need Microsoft® Word (or Office) 2003 or higher versions. Note that some pages have intentionally been left blank, so that each aircraft starts on an even page, thus minimising the page turns needed for a flight. Finally, unless otherwise stated, the checklists are based on the performance at about 80% fuel load. Expect changes when the aircraft gets lighter later during a flight.

Document "A" covers historical aircraft. Document "B" modern piston-engine planes, and document "C" includes the turboprops, jets, helis and sailplanes.

The colour squares relate to how I distribute the commands among my three controlling hardware: Hotas Cougar Joystick-cum-Throttle, Saitek Twin Quadrant and Logitech G13 Gameboard.

Conventions

NORMAL TEXT	check/verify
BOLD TEXT	action/change
GREY TEXT	denotes default values, in checklists for improved flight dynamics
*	data from specs or checklists (most others are from FS test flight)
	Gameboard, Macro 1: Radios, Lights, Heat and Deice, Alternators and Pumps
	Gameboard, Macro 2: Auto-Pilot and Externals
	Quadrant handles: Throttles, Propellers, Mixtures, Reversers, Feather, Prime
	Quadrant switches: Gear, Flaps, Cowl, Prop.Synch., Auto-Feather, Magnetos
	Hotas & Pedals: Flight Controls, Trims, Brakes, Spoilers, Tailwheel, Water Rudder
	Mouse: Calibrators and a few other screen clicks
	Screen: No manual action, just watch the screen

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AIRCRAFT CHECKLIST

318 Cessna C152 II

Values valid for the Carenado model, with our mod raising Propeller Scalar from 0.93 to 1.2.

AIRCRAFT BASIC SPECS

Engines n° and type	1 Prop-Piston-Fixed
MTOW	1,700lb
Fuel usable capacity	26 gl Tanks: Left Main, Right Main
Range	320 nm, 3h 30'
T.off runway length	750 ft

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON
 Alternator	ON
 Carburettor Heat	COLD (off)
 Avionics Master	OFF
 Nav Lights	AS REQUIRED
 Magnetos / Ignition	OFF
 Pitot Heat	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Selector	BOTH
 Throttle	CRACKED (min)
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Flight Controls	FREE/Full travel

STARTING (CTRL+E for autostart sequence)

 Beacon	ON
 Mixture	FULL RICH (or less if above 3,000 FT)
 Prime	2-3 STROKES IF COLD
 Throttle	OPEN 1/2 IN. 1,000 RPM ONCE STARTED
 Starter Switch / Magneto	START
 Oil Pressure Gauge	>25 in <30 sec.
 Oil Temperature	CHECK
 VAC / Suction	CHECK ≥ 4.5
 Amperes	≥ 0
 Volts Annunciator	OFF (after a while)

WARM UP AND TAXI

■ Fuel Selector	SWITCH TANKS+CHECK
■ Gyro / Heading	CALIBRATE
■ Altimeter	CALIBRATE
■ Flight Instruments	CHECK
■ Parking Brake	CHECK ON
■ Throttle (for testing)	1,500 RPM
■ Temperatures & Pressures	CHECK
■ Magnetos: Maximum Drops	ON EACH 125 PM, BETW. MAGN. 50 RPM
■ Carburettor Heat	CHECK RPM DROP THEN BACK TO OFF
■ Throttle (for warm up)	1,000 RPM
■ Avionics Master	ON
■ Radios	SET AS PER FLIGHT PLAN
■ Wing Flaps	UP, FULL DOWN, VISUAL CHECK, UP
■ Landing Lights	ON
■ Taxi Throttle for steady Speed	1,100 RPM - 14 KIAS
■ Taxi Turns: Gyro & Turn Coordinator	CHECK

PRE-TAKEOFF

■ Throttle	IDLE
■ Mixture	FULL RICH (or less if above 3,000 FT)
■ Elevator Trim	SET TO "TAKE OFF" MARK = +15
■ Wing Flaps	SET: 10° (0° for very long runway)
■ Fuel Selector	BOTH
■ Pitot Heat	ON
■ Transponder	ON
■ Transponder Annunciator	ON (blinking red)

TAKEOFF (sea level or low altitude)

■ Brakes (parking or pedal)	RELEASE
■ Throttle	Full => 2,400 RPM
■ Decision (V1)	45 KIAS
■ Rotate (ave.)	50 KIAS
■ Attitude Angle	10-15°
■ Airspeed (airborne & gear up)	70 KIAS
■ Landing Lights	OFF

CLIMB (once clear of obstacles)

■ Wing Flaps

■ Throttle

■ Elevator Trim

Airspeed

Climb (Vertical Speed)

■ Mixture: Lean for max. RPM

RETRACT AND VERIFY**2,300 RPM****ABOVE 5,000 FT: Full =>2,400 RPM****+18**

70 KIAS

+700 FPM | ABOVE 3,000: +600 FPM

2,000 FT 60% | 3,000 FT 56% | 5,000 FT 50%**7,000 FT 42% | 10,000 FT 37% | 13,000 FT 29%****CRUISE**

■ Typical Altitude

■ Gyro / Heading

■ Altimeter

■ Throttle

■ Mixture: Lean for max. RPM

■ Wing Flaps

■ Elevator Trim

■ Cruise Airspeed

NORMAL**7,000 FT****CHECK / CALIBRATE****SET / CALIBRATE****2,400 RPM****42%****+04**

90 KIAS (*)

LOW CITY**900 FT****1,800 RPM****FULL RICH****SET: 10°****+35****56 KIAS***(*) 2 persons. Not too sensitive to fuel load: full fuel 88 KIAS, empty 92 KIAS**Max Level Airspeed**110 KIAS (at 2,000 FT, Elevator Trim -05)**Never Exceed Airspeed**145 KIAS**Service Ceiling**14,000 FT (LEAN 27%)***DESCENT**

■ Radios

■ Gyro / Heading

■ Altimeter

■ Fuel Quantity

■ Fuel Selector

■ Carburettor Heat

■ Throttle

■ Mixture

■ Elevator Trim

■ Airspeed

■ Descent Rate (Vert. Speed)

■ Wing Flaps (initial)

CHECK FOR ATIS/AIRPORT INFORMAT.**CHECK / CALIBRATE****SET / CALIBRATE**

CHECK

BOTH

ON

Typically 2,100 RPM**ENRICH AS NECESSARY (see CLIMB)****+04**

90 KIAS (max. maneuvering speed: 100 KIAS)

-700 FPM

UP AND NEUTRAL

GLIDE WITH ENGINE OUT (optimal glide ratio)

■ Elevator Trim

+37

■ Airspeed

60 KIAS

■ Descent Rate (Vert. Speed)

-750 FPM

■ Glide Ratio

1 : 8

APPROACH

- Radios
- Landing Lights
- Mixture
- Wing Flaps (intermediate)

SET FOR APPROACH
ON
FULL RICH
10° AT 90 KIAS
20° AT 80 KIAS

FINAL AND LANDING

- Parking Brake
- Wing Flaps: Full Down at ...
- Elevator Trim
- Final Approach Airspeed
- Throttle (idle on touchdown)
- Touchdown Airspeed
- Stall Speed Clean*
- Stall Speed Flaps Down*

VERIFY OFF
70 KIAS
+05
63 KIAS
2,000 RPM
55 KIAS
45 KIAS
40 KIAS

AFTER LANDING - TAXI

- Wing Flaps
- Carburettor Heat
- Pitot Heat
- Trim Tabs

UP AND NEUTRAL
OFF
OFF
NEUTRAL

ENGINE SHUT-DOWN

- Parking Brake
- Landing Lights
- Avionics Master
- Throttle
- Mixture
- Magnetos
- Wheel Chocks
- Fuel Selector
- Beacon
- Navigation Lights
- Instrument Panel Lights
- Alternator
- Volts Annunciator
- Master Battery Switch

APPLY
OFF
OFF
IDLE
IDLE CUT-OFF
OFF AFTER ENGINE STOPS
ON w/BOTH ENGINES OFF
LEFT (to prevent crossfeed)
OFF
OFF
OFF
OFF
ON (after a while)
OFF

AIRCRAFT CHECKLIST

321 Extra 300S

AIRCRAFT BASIC SPECS

There are no flaps

Engines n° and type	1 Prop-Piston-Variable
MTOW	2,100 lb
Fuel usable capacity (gauges ineffective: model uses first L/R Main, then Centre)	45.2 gl Tanks: Left Main, Centre 2 (no gauges), Centre 1 11gl (ACRO TANK), Right Main 16 gl (WING TANK)
Range	415 nm, 3 hs
T.off runway length	1,000 ft Land: 2,000 ft

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON
 Generators (Alt Field)	ON
 Volt / Amp / Light	VOLT LIGHT ON
 Avionics Master	OFF
 Nav Lights	AS REQUIRED
 Magnetos / Ignition	OFF
 Fuel Gauges/Quantity	CHECK (No Fuel Tank Selectors)
 Throttle	CRACKED (min)
 Propeller Control	HIGH RPM
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL (elev.only)
 Engine Rest Man.Pressure	NOTED (mostly 30" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED
 Strobe	ON
 Fuel Boost Pump	OFF

STARTING (CTRL+E for autostart sequence)

 Propeller Control	HIGH RPM
 Mixture	FULL RICH
 Throttle	OPEN 1/4
 Fuel Boost Pump	ON
 Starter Switch / Magneto	START
 Oil Pressure	CHECK OK in <30 sec.
 Fuel Pressure	CHECK
 Fuel Boost Pump	OFF
 Fuel Pressure	CHECK
 Oil Temperature	CHECK
 Generators: Volt Light	OFF

WARM UP AND TAXI

Temperatures & Pressures	CHECK INCLUDING CHT
Fuel Boost Pump	CHECK OFF
Gyro / Heading	CALIBRATE
Altimeter	CALIBRATE
Brakes	CHECK (disengages parking brake!)
Parking Brake	APPLY
Throttle (for testing)	1,800 RPM
Temperatures & Pressures	CHECK
Propellers	EXERCISE (2-3 times, no more than 400RPM drop)
Generators: Volt Light	OFF
Magnetos: Maximum Drops	ON EACH 175 PM, BETW. MAGN. 50 RPM
Throttle (for warm up)	900 RPM
Avionics Master	ON
Radios	SET AS PER FLIGHT PLAN
Taxi Throttle for steady Speed	1,200 RPM - 12 KIAS
Taxi Turns for taildraggers	USE DIFF.BRAKES ONLY
Taxi Turns: Gyro & Turn Coordinator	CHECK

PRE-TAKEOFF

Throttle	IDLE
Propeller Control	HIGH RPM
Mixture	FULL RICH
Elevator Trim	NEUTRAL (Elevator is the only trim in the Extra)
Fuel Boost Pump	ON
Transponder	ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)	RELEASE
Throttle	Full => 28" Hg MAN.PRES.
Propeller Control	High => 2,700 RPM
Tail Up / Nose Down (ave.)	50 MPH
Rotate (ave.)	65 KIAS (i.e. almost immediately!)
Airspeed once airborne	90 KIAS

CLIMB (once clear of obstacles)

Throttle	26" Hg MAN.PRES.
Propeller Control	2,400 RPM
Fuel Boost Pump	OFF
Elevator Trim (ave.)	+30
Airspeed	110 KIAS
Climb (Vertical Speed)	~ +1,500 FPM
Temperatures & Pressures	CHECK
Mixture: Lean above ...	AS NECESSARY

CRUISE

Typical Altitude	NORMAL	LOW CITY
Gyro / Heading	3,000 FT	600 FT
Altimeter	CHECK / CALIBRATE	
Throttle	SET / CALIBRATE	
Propeller Control	25" Hg MAN.PRES.	13" Hg MAN.PRES.
Mixture	2,400 RPM	HIGH RPM
Elevator Trim	LEAN FOR MAX. EGT	FULL RICH
Cruise Airspeed	+15	+40
<i>Max Level Airspeed</i>	Inverted: -05	85 KIAS
<i>Never Exceed Airspeed</i>	160 KIAS	
<i>Service Ceiling</i>	180 KIAS (at cruise altitude)	
	225 KIAS	
	16,000 FT	

DESCENT

Radios	CHECK FOR ATIS/AIRPORT INFORMATION
Gyro / Heading	CHECK / CALIBRATE
Altimeter	SET / CALIBRATE
Fuel Quantity	CHECK
Throttle	Typically 11" Hg
Propeller Control	HIGH RPM
Mixture	FULL RICH
Elevator Trim	+30
Airspeed	95 KIAS
Descent Rate (Vert. Speed)	-500 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Propeller Control	LO RPM (no feather!)
Elevator Trim	+44
Airspeed	85 MPH
Descent Rate (Vert. Speed)	-1,150 FPM
Glide Ratio	1 : 6.5

APPROACH

- Radios
- Propeller Control
- Mixture
- Fuel Boost Pump

SET FOR APPROACH
HIGH RPM
FULL RICH
ON

FINAL AND LANDING

- Parking Brake
- Final Approach Airspeed
- Throttle (idle on touchdown)
- Touchdown Airspeed
- Stall Speed Clean*
- Stall Speed All Down*

Touchdown: all three wheels simultaneously
VERIFY OFF
80 MPH
Typically 12~15" Hg
70-75 KIAS
59 KIAS
59 KIAS

AFTER LANDING - TAXI

- Fuel Boost Pump
- Trim Tabs

OFF
NEUTRAL (elev.only)

ENGINE SHUT-DOWN

- Parking Brake
- Avionics Master
- Throttle
- Throttle
- Propeller Control
- Mixture
- Magnetos
- Strobe
- Navigation Lights
- Instrument Panel Lights
- Generators (Alt Field)
- Master Battery Switch

APPLY
OFF
1,000 RPM for 1 min.
IDLE
LOW RPM
IDLE CUT-OFF
OFF AFTER ENGINE STOPS
OFF
OFF
OFF
OFF

Note:

Rudder pedals are adjustable to suit the pilot by toggling electric motor switches, one for each pedal. No effect found in FS2004 however.

AIRCRAFT CHECKLIST

322 Zenith CH801 STOL

Values valid for the Abacus model included with National Parks / SeaPlane Adventures

AIRCRAFT BASIC SPECS

Engines n° and type	1 Prop-Piston-Variable
MTOW	2,200 lb
Fuel usable capacity	60 gl as per the Extended Range real model. Tanks: Left Main, Right Main
Range	300 nm, 3h 10'
T.off runway length	300 ft (below 2,000 ft altitude)

BEFORE STARTING

 Parking Brake	SET (land)
 Master Battery Switch	ON
 Landing Gear	GEAR DOWN (land) GEAR UP (water)
 Gear Lights	DOWN AMBER (land) UP BLUE (water)
 Alternator	ON
 Avionics Master	OFF
 Nav Lights	AS REQUIRED
 Magnetos / Ignition	OFF
 Pitot Heat	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Tank Selector	BOTH
 Throttle	CRACKED (min)
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Engine Rest Man.Pressure	NOTED (mostly 30" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED

STARTING (CTRL+E for autostart sequence)

 Mixture	FULL RICH (or less if above 3,000 FT)
 Throttle	OPEN 1/4 INCH, OFF ONCE STARTED
 Starter Switch / Magneto	START
 Oil Pressure	GREEN in <30 sec.
 Oil Temperature	CHECK
 Fuel Flow	CHECK
 Suction	CHECK
 Volt Light	OFF

WARM UP AND TAXI

Fuel Tank Selector
 Temperatures & Pressures
 Gyro / Heading
 Altimeter
 Flight Instruments
 Brakes
 Parking Brake
 Throttle (for testing)
 Temperatures & Pressures
 Volt Light
 Magnetos: Maximum Drops
 Throttle (for warm up)
 Water Rudders
 Avionics Master
 Radios
 Autopilot
 Wing Flaps
 Taxi Throttle for steady
 Speed
 Gyro & Turn Co. dur. Taxi

SWITCH TANKS+CHECK
CHECK INCLUDING CHT
CALIBRATE
CALIBRATE
CHECK
CHECK (land only)
APPLY (land only)
1,700 RPM
CHECK
OFF
ON EACH 150 PM, BETW. MAGN. 50 RPM
900 RPM
UP (land) | DOWN (water)
ON
SET AS PER FLIGHT PLAN
SET AND OFF
UP, FULL DOWN, VISUAL CHECK, UP
1,250 RPM - 15 KIAS | 1,700 RPM - 20 KIAS
CHECK

PRE-TAKEOFF

Strobe
 Gear Lights
 Water Rudders
 Throttle
 Mixture
 Elevator Trim
 Wing Flaps
 Pitot Heat
 Landing Lights

ON
DOWN AMBER (land) | UP BLUE (water)
CHECK UP (land) | UP (water)
IDLE
FULL RICH (or less if above 3,000 FT)
SET TO "O" MARK = +20
SET TO 15°
ON IF OAT < 4 °C
ON

TAKEOFF (sea level or low altitude)

Parking Brake
 Throttle
 Decision (V1)
 Rotate (ave.)
 Attitude Angle
 Landing Gear
 Gear Lights
 Airspeed (airborne & gear up)
 Landing Lights

RELEASE (land)
=> 27" Hg MAN.PRES.; 3,000 RPM
55 KIAS (land) | 60 KIAS (water)
60 KIAS (land) | 65 KIAS (water)
10°
RETRACT (land)
CHECK UP BLUE
≥ 70 KIAS
OFF

CLIMB (once clear of obstacles)

Wing Flaps	RETRACT AND VERIFY (AT > 75 KIAS)
Throttle	2,900 RPM; > 5,000 FT: 3,200 RPM
Elevator Trim (ave.)	+18
Airspeed	90 KIAS
Climb (Vertical Speed)	+900 FPM
Mixture: Lean above ...	3,000 FT for max. RPM 13,000 FT: 31% 18,000 FT: 22%

CRUISE

Typical Altitude	NORMAL	LOW CITY
Gyro / Heading	8,000 FT	600 FT
Altimeter	CHECK / CALIBRATE	
Throttle	SET / CALIBRATE	
Mixture	21.5" Hg; 3,000 RPM	22" Hg; 2,500 RPM
Wing Flaps	36%, for max. RPM	FULL RICH
Elevator Trim	+13	SET: 15°
Pitot Heat	ON IF OAT < 4 °C	+37
Cruise Airspeed	95 KIAS (2 pers.+ 3/4 fuel)	67 KIAS
<i>Max Level Airspeed</i>	130 KIAS	
<i>Never Exceed Airspeed</i>	140 KIAS	
<i>Service Ceiling</i>	23,000 FT (real aircraft 16,000 FT)	

DESCENT

Radios	CHECK FOR ATIS/AIRPORT INFORMAT.
Gyro / Heading	CHECK / CALIBRATE
Altimeter	SET / CALIBRATE
Fuel Quantity	CHECK
Fuel Tank Selector	BOTH
Throttle	15" Hg; 2,200 RPM
Mixture	ENRICH AS NECESSARY (see CLIMB)
Elevator Trim	+35
Wing Flaps (initial)	15° (below 100 KIAS)
Airspeed	66 KIAS
Descent Rate (Vert. Speed)	-1,200 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Elevator Trim	+55
Airspeed	65 KIAS
Descent Rate (Vert. Speed)	-1,650 FPM
Glide Ratio	1 : 4.0

Glide ratio is almost constant from trim +40 to +80, with Airspeed from 72 to 57 KIAS

APPROACH

- Radios
- Autopilot
- Landing Gear
- Gear Lights
- Landing Lights
- Mixture
- Wing Flaps (intermediate)

**SET FOR APPROACH
AS DESIRED
DOWN (land)
DOWN AMBER (land) | UP BLUE (water)
ON
FULL RICH
25° AT 80 KIAS**

FINAL AND LANDING

Don't idle before touchdown: poor gliding!

- Parking Brake
- Wing Flaps: Full Down at ...
- Elevator Trim
- Final Approach Airspeed
- Autopilot
- Throttle (idle on touchdown)
- Touchdown Airspeed
- Stall Speed Clean*
- Stall Speed All Down*

**VERIFY OFF
75 KIAS
+40
57 KIAS
OFF
21" Hg; 2,500 RPM
52 KIAS
42 KIAS
35 KIAS**

AFTER LANDING – TAXI

- Water Rudders
- Wing Flaps
- Landing Lights
- Pitot Heat
- Trim Tabs
- Strobe

| **DOWN (water)**

**UP AND NEUTRAL
OFF
OFF
NEUTRAL
OFF**

ENGINE SHUT-DOWN

- Parking Brake
- Avionics Master
- Throttle
- Mixture
- Magnetos
- Fuel Tank Selector
- Navigation Lights
- Instrument Panel Lights
- Alternator
- Master Battery Switch

**APPLY (land)
OFF
IDLE
IDLE CUT-OFF
OFF AFTER ENGINE STOPS
LEFT (to prevent crossfeed)
OFF
OFF
OFF
OFF**

AIRCRAFT CHECKLIST**323 Cessna C172SP 'Skyhawk'**

Values valid for the RealAir/ TAFE realistic flight dynamics.

Values for the default dynamics, whenever different, are printed in grey

AIRCRAFT BASIC SPECS

Engines n° and type	1 Prop-Piston-Fixed
MTOW	2,300lb
Fuel usable capacity	56 gl Tanks: Left Main, Right Main
T.off runway length	960 ft

BEFORE STARTING

Parking Brake	SET
Master Battery Switch	ON
Alternator	ON
Volts Annunciator	ON
Avionics Master	OFF
Nav Lights	AS REQUIRED
Magnetos / Ignition	OFF
Pitot Heat	OFF
Fuel Gauges/Quantity	CHECK
Fuel Selector	BOTH
Throttle	CRACKED (min)
Mixture	IDLE CUTOFF
Trim Tabs	NEUTRAL
Flight Controls	FREE/Full travel
Fuel Boost Pumps	OFF

STARTING (CTRL+E for autostart sequence)

Beacon / Strobe	ON
Mixture	FULL RICH (or less if above 3,000 FT)
Throttle	OPEN 1/4 INCH, OFF ONCE STARTED
Fuel Boost Pump	ON
Starter Switch / Magneto	START
Oil Pressure Annunc.& Gauge	OFF and GREEN in <30 sec.
Fuel Boost Pump	OFF
Oil Temperature	CHECK
VAC / Suction	CHECK
Volts Annunciator	OFF (after a while)

WARM UP AND TAXI

Fuel Selector	SWITCH TANKS+CHECK
Temperatures & Pressures	CHECK
Gyro / Heading	CALIBRATE
Altimeter	CALIBRATE
Flight Instruments	CHECK
Brakes	CHECK (disengages parking brake!)
Parking Brake	APPLY
Throttle (for testing)	1,700 RPM
Temperatures & Pressures	CHECK
Magnetos: Maximum Drops	ON EACH 150 PM, BETW. MAGN. 50 RPM
Throttle (for warm up)	900 RPM
Avionics Master	ON
Radios	SET AS PER FLIGHT PLAN
Autopilot	SET AND OFF
Wing Flaps	UP, FULL DOWN, VISUAL CHECK, UP
Taxi Lights	ON
Taxi Throttle for steady Speed	1,200 RPM - 14 KIAS 1,100 RPM - 13 KIAS
Taxi Turns: Gyro & Turn Coordinator	CHECK

PRE-TAKEOFF

Throttle	IDLE
Mixture	FULL RICH (or less if above 3,000 FT)
Elevator Trim	SET TO "TO" MARK = +26
Wing Flaps	SET: 0° OR 10°
Fuel Boost Pump	ON
Pitot Heat	ON
Transponder	ON
Landing Lights	ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)	RELEASE
Throttle	Full => 2,200 RPM
Decision (V1)	55 KIAS
Rotate (ave.)	65 KIAS
Attitude Angle	10-15°
Airspeed (airborne & gear up)	70 KIAS
Landing and Taxi Lights	OFF

CLIMB (once clear of obstacles)

Wing Flaps	RETRACT AND VERIFY
Fuel Boost Pump	OFF
Throttle	2,400 RPM; 2,300 RPM;
	ABOVE 5,000 FT: Full =>2,500 2,400 RPM
Elevator Trim	+07 +22
Airspeed	88 80 KIAS
Climb (Vertical Speed)	+500 +700 FPM
Mixture: Lean above ...	3,000 FT for max. RPM

CRUISE

Typical Altitude	NORMAL	LOW CITY
Gyro / Heading	7,500 FT	600 FT
Altimeter	CHECK / CALIBRATE	
Throttle	SET / CALIBRATE	
Mixture	2,500 RPM Full=>2,400 RPM	2,000 RPM 1,900 RPM
Wing Flaps	LEAN for max. RPM	FULL RICH
Elevator Trim	+00 +03	SET: 10°
Cruise Airspeed (*)	100 102 KIAS	+32 +39
<i>Max Level Airspeed</i>	<i>126 130 KIAS</i>	63 70 KIAS
<i>Never Exceed Airspeed</i>	<i>185 165 KIAS</i>	
<i>Service Ceiling</i>	<i>13,500 FT</i>	
<i>(*) 2 persons and full fuel load</i>		

DESCENT

Radios	CHECK FOR ATIS/AIRPORT INFORMAT.
Gyro / Heading	CHECK / CALIBRATE
Altimeter	SET / CALIBRATE
Fuel Quantity	CHECK
Fuel Selector	BOTH
Throttle	Typically 2,000 RPM
Mixture	ENRICH AS NECESSARY
Elevator Trim	+00 +06
Airspeed	100 KIAS
Descent Rate (Vert. Speed)	-700 FPM
Wing Flaps (initial)	AS REQUIRED.: UP OR 10°

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Elevator Trim	+23 +41
Airspeed	75 KIAS
Descent Rate (Vert. Speed)	-800 -850 FPM
Glide Ratio	1 : 9

APPROACH

Radios	SET FOR APPROACH
Autopilot	AS DESIRED
Landing and Taxi Lights	ON
Mixture	FULL RICH
Fuel Boost Pumps	ON
Wing Flaps (intermediate)	10° AT 100 KIAS 20° AT 85 KIAS

FINAL AND LANDING

Parking Brake	VERIFY OFF
Wing Flaps: Full Down at ...	80 KIAS
Elevator Trim	-03
Final Approach Airspeed	75 KIAS
Autopilot	OFF
Throttle (idle on touchdown)	1,800-2,100 RPM
Touchdown Airspeed	65 KIAS
<i>Stall Speed Clean</i>	<i>48 KIAS</i>
<i>Stall Speed All Down</i>	<i>40 KIAS</i>

AFTER LANDING - TAXI

Wing Flaps	UP AND NEUTRAL
Landing Lights	OFF
Pitot Heat	OFF
Fuel Boost Pumps	OFF
Trim Tabs	NEUTRAL

ENGINE SHUT-DOWN

Parking Brake	APPLY
Taxi Lights	OFF
Avionics Master	OFF
Throttle	IDLE
Mixture	IDLE CUT-OFF
Magnetos	OFF AFTER ENGINE STOPS
Fuel Selector	LEFT (to prevent crossfeed)
Beacon / Strobe	OFF
Navigation Lights	OFF
Instrument Panel Lights	OFF
Alternator	OFF
Master Battery Switch	OFF

AIRCRAFT CHECKLIST

328 Piper PA-28 'Arrow IV'

Values valid for the Carenado's model, checked with Carenado's documents (*) and test flight.

AIRCRAFT BASIC SPECS

Lights: Strobe and Landing only

Engines n° and type	1 Prop-Piston-Variable
MTOW	2,750 lb
Fuel usable capacity	72 gal Tanks: Left Main, Right Main
Range	960 nm, 8 hs
T.off runway length	2,900 ft (below 2,000 ft altitude)

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON – ANNUN. PANEL: THREE LIGHTS ON
 Landing Gear	HANDLE DOWN+LOCKED (THREE LIGHTS)
 Alternator	ON
 Amperes	CHECK ≥ 0
 Avionics Master	OFF
 Nav Lights	ON (round button left of 4 switches)
 Magnetos / Ignition	OFF
 Alternate Air (Carb. Heat)	CLOSED – ICE WARNING is unaffected by this
 Pitot Heat	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Selector	LEFT or RIGHT TANK
 Throttle	CRACKED (min)
 Propeller Control	HIGH RPM
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Engine Rest Man.Pressure	NOTED (normally 29" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED
 Fuel Pump	OFF

STARTING (CTRL+E for autostart sequence)

 Propeller Control	HIGH RPM
 Throttle	OPEN 1/2 INCH
 Primer (no gauge)	1 STROKE IF COLD, 5 IF VERY HOT
 Fuel Pump	ON
 Starter Switch / Magneto	START, and while running immediately ...
 Mixture	FULL RICH (less if > 3,000 FT or very hot)
 Oil Pressure	MID_YELLOW in <30 sec., later GREEN
 Oil Temperature	CHECK
 Fuel Pressure	GREEN
 Suction	CHECK (4.8" Hg to 5.1" Hg)
 Amperes	CHECK ≥ 0, ideally 7.0
 Annunciator Panel	THREE LIGHTS OFF

WARM UP AND TAXI

Fuel Selector
 Gyro / Heading
 Altimeter
 Flight Instruments
 Brakes
 Parking Brake
 Throttle (for testing)
 Temperatures & Pressures
 Propeller
 Magnetos: Maximum Drops
 Alternate Air (De-Ice)
 Fuel Pump
 Throttle (for warm up)
 Annunciator Panel
 Avionics Master
 Radios (COM2 always on)
 Autopilot
 Wing Flaps
 Landing Lights
 Taxi Throttle f. steady Speed
 Taxi Turns: Gyro& Turn Co.

SWITCH TANKS+CHECK
CALIBRATE
CALIBRATE
CHECK
CHECK (disengages parking brake!)
APPLY
2,000 RPM * ~14" Hg MAN.PRES.
CHECK
EXERCISE (twice, check no more than 800RPM drop)
EACH 175 RPM, BETW. MAGN. 50 RPM *
OPEN (check < 100RPM drop) **THEN CLOSE**
OFF
1,400 RPM * (OIL ANN. MAY LIGHT ON)
PRESS TO TEST (then temporarily all off)
ON
SWITCH ON & SET AS PER FLIGHT PLAN
SET AND OFF
UP, FULL DOWN, VISUAL CHECK, UP
ON
1,550 RPM - 15 KIAS
CHECK

PRE-TAKEOFF

Strobe (Anti-Collision)
 Throttle
 Propeller Control
 Mixture
 Elevator Trim
 Wing Flaps
 Fuel Pump
 Pitot Heat
 Transponder

ON
IDLE
HIGH RPM
FULL RICH (or less if above 3,000 FT)
+30
SET TO 10° (25° for short rwy) *
ON
ON (now ALL the light switches are on)
ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)
 Throttle
 Propeller Control
 Decision (V1)
 Rotate (ave.)
 Attitude Angle
 Landing Gear
 Airspeed (airborne & gear up)
 Landing Lights

RELEASE
Full => 28" Hg MAN.PRES. (16 FUEL FLOW)
HIGH => 2,700 RPM
65 KIAS *
75 KIAS *
05°
RETRACT (LIGHTS OFF)
≥ 87 KIAS *
OFF

CLIMB (once clear of obstacles)

Landing Gear (w/posit.climb)	VERIFY UP - LATCHED
Wing Flaps	RETRACT AND VERIFY (AT > 85 KIAS)
Throttle	25" Hg MAN.PRES.; ABOVE 3,000 FT: FULL
Propeller Control	2,500 RPM
Elevator Trim (ave.)	+30
Airspeed	96 KIAS
Climb (Vertical Speed)	+600 FPM
Fuel Pump	OFF AT 3,000 FT above rwy
Mixture: Lean	2,000 FT 63%, 4,000 FT 55% (or max. EGT)

CRUISE @ 3/4 Fuel

Typical Altitude	NORMAL	LOW CITY
Outside Air Temperature	6,000 FT *	600 FT
Gyro / Heading	Typically +10° C *	
Altimeter	CHECK / CALIBRATE	
Throttle	SET / CALIBRATE	
Propeller Control	7/8, 23" Hg MAN.PRES.	20" Hg MAN.PRES.
Mixture: Lean	2,500 RPM	2,600 RPM
Wing Flaps	50%	FULL RICH
Elevator Trim	+08	SET: 10°
Cruise Airspeed	120 KIAS (2 pers.+ 3/4 fuel)	+30
<i>Max Level Airspeed</i>	<i>149-152 KIAS *</i>	96 KIAS
<i>Never Exceed Airspeed</i>	<i>190 KIAS *</i>	
<i>Service Ceiling</i>	<i>15,000 FT (LEAN 30%)</i>	

DESCENT @ 40% Fuel

Radios	Landing Gear CAN be used as spoiler up to 140 KIAS
Gyro / Heading	CHECK FOR ATIS/AIRPORT INFORMAT.
Altimeter	CHECK / CALIBRATE
Fuel Quantity	SET / CALIBRATE
Fuel Selector	CHECK
Alternate Air	SELECT FULLEST TANK
Throttle	OPEN
Propeller Control	Typically 14" Hg
Mixture	1,900 RPM
Elevator Trim	ENRICH AS NECESSARY (see CLIMB)
Airspeed	+10
Descent Rate (Vert. Speed)	117 KIAS
	-500 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Propeller Control	FEATHERED
Elevator Trim	+50
Airspeed	83 KIAS
Descent Rate (Vert. Speed)	-710 FPM
Glide Ratio	1 : 11.8

APPROACH @ 40% Fuel

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN (below 130 KIAS) *
■ Gear Light	LOCKED (THREE LIGHTS)
■ Autopilot	AS DESIRED
■ Fuel Pump	ON
■ Landing Lights	ON
■ Throttle	>=14" Hg
■ Propeller Control	HIGH RPM
■ Mixture	FULL RICH
■ Wing Flaps (initial)	10° AT 110 KIAS
■ Wing Flaps (intermediate)	25° AT 100 KIAS

FINAL AND LANDING

■ Alternate Air	OPEN
■ Parking Brake	VERIFY OFF
■ Autopilot	OFF
■ Wing Flaps: Full Down at ...	90 KIAS
■ Elevator Trim	+40
■ Final Approach Airspeed	90 KIAS *
■ Throttle (idle on touchdown)	Typically 21.5" Hg
■ Touchdown Airspeed	75 KIAS
<i>Stall Speed Clean</i>	<i>57 KIAS</i>
<i>Stall Speed All Down</i>	<i>52 KIAS</i>

AFTER LANDING – TAXI

■ Wing Flaps	UP AND NEUTRAL
■ Alternate Air	CLOSE
■ Pitot Heat	OFF
■ Fuel Pump	OFF
■ Trim Tabs	NEUTRAL
■ Strobe (Anti-Collision)	OFF

ENGINE SHUT-DOWN

■ Parking Brake	APPLY
■ Landing Lights	OFF
■ Avionics Master	OFF
■ Throttle	IDLE
■ Propeller Control	HIGH RPM
■ Mixture	IDLE CUT-OFF
■ Magnetos	OFF AFTER ENGINE STOPS
■ Fuel Selector	RIGHT (to prevent crossfeed)
■ Navigation Lights	OFF
■ Instrument Panel Lights	OFF
■ Alternator	OFF
■ Master Battery Switch	OFF – MAIN GEAR CHOCKS ON

AIRCRAFT CHECKLIST **331 Cessna C182RG 'Skylane'**

Values valid for the Carenado realistic flight dynamics, checked with Carenado's documents.

AIRCRAFT BASIC SPECS

Engines n° and type	1 Prop-Piston-Variable
MTOW	3,100 lb
Fuel usable capacity	61 gal Tanks: Left Main, Right Main
Range	650 nm, 5h 15'
T.off runway length	1,100 ft (below 2,000 ft altitude)

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON
 Landing Gear	HANDLE DOWN+LOCKED(GREEN LIGHTS)
 Alternator	ON
 Amperes	CHECK ≥ 0
 Avionics Master	OFF
 Nav Lights	AS REQUIRED
 Magnetos / Ignition	OFF
 Carburettor Heat	OFF
 Pitot Heat	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Selector	BOTH
 Throttle	CRACKED (min)
 Propeller Control	HIGH RPM
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Cowl Flaps	OPEN
 Engine Rest Man.Pressure	NOTED (mostly 30" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED
 Auxiliary Fuel Pump	OFF

STARTING (CTRL+E for autostart sequence)

 Beacon	ON
 Propeller Control	HIGH RPM
 Mixture	FULL RICH (or less if above 3,000 FT)
 Throttle	OPEN 1/4 INCH
 Primer	1 STROKE IF COLD, 6 IF VERY HOT
 Starter Switch / Magneto	START
 Oil Pressure	GREEN in <30 sec.
 Oil Temperature	CHECK
 Fuel Pressure	CHECK
 Suction	CHECK
 Amperes	CHECK ≥ 0

WARM UP AND TAXI

Fuel Selector
 Temperatures & Pressures
 Gyro / Heading
 Altimeter
 Flight Instruments
 Brakes
 Parking Brake
 Throttle (for testing)
 Temperatures & Pressures
 Propeller
 Magnetos: Maximum Drops
 Carburettor Heat
 Throttle (for warm up)
 Avionics Master
 Radios
 Autopilot
 Wing Flaps
 Taxi Lights
 Taxi Throttle f. steady Speed
 Taxi Turns: Gyro& Turn Co.

SWITCH TANKS+CHECK
CHECK INCLUDING CHT
CALIBRATE
CALIBRATE
CHECK
CHECK (disengages parking brake!)
APPLY
1,700 RPM
CHECK
EXERCISE (twice, check no more than 400RPM drop)
ON EACH 175 RPM, BETW. MAGN. 50 RPM
ON, CHECK MINIMAL RPM DROP THEN OFF
900 RPM
ON
SWITCH ON & SET AS PER FLIGHT PLAN
SET AND OFF
UP, FULL DOWN, VISUAL CHECK, UP
ON
1,300 RPM - 15 KIAS
CHECK

PRE-TAKEOFF

Strobe
 Throttle
 Propeller Control
 Mixture
 Elevator Trim
 Wing Flaps
 Cowl Flaps
 Auxiliary Fuel Pump
 Pitot Heat
 Transponder
 Landing Lights

ON
IDLE
HIGH RPM
FULL RICH (or less if above 3,000 FT)
SET TO "O" MARK = +25
SET TO 10° (20° for short rwy)
CHECK OPEN
ON, CHECK RISE IN FUEL PRESS., THEN OFF
ON
ON
ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)
 Throttle
 Propeller Control
 Decision (V1)
 Rotate (ave.)
 Attitude Angle
 Landing Gear
 Airspeed (airborne & gear up)
 Landing and Taxi Lights

RELEASE
Full => 27" Hg MAN.PRES.
HIGH and \geq 2,400 RPM
55 KIAS
65 KIAS
10-15°
RETRACT
 \geq 70 KIAS
OFF

CLIMB (once clear of obstacles)

Do not exceed 8 of Fuel Pressure!

Landing Gear (w/posit.climb)	VERIFY UP - LATCHED
Wing Flaps	RETRACT AND VERIFY (AT > 75 KIAS)
Throttle	23" Hg MAN.PRES.; ABOVE 7,000 FT: FULL
Propeller Control	2,400 RPM
Elevator Trim (ave.)	+25
Airspeed	95 KIAS
Climb (Vertical Speed)	+700 FPM
Mixture: Lean f/max RPM	2,000 FT: 62% 6,000 FT: 48% 10,000 FT: 37%
	4,000 FT: 54% 8,000 FT: 42% 12,000 FT: 32%

CRUISE

Typical Altitude	NORMAL		LOW CITY
Gyro / Heading and Altimeter	8,000 FT		600 FT
Throttle	CHECK / CALIBRATE		
Propeller Control	21" Hg MAN.PRES.		15" Hg MAN.PRES.
Mixture	2,200 RPM		HIGH RPM
Wing Flaps	LEAN for max. RPM (40%)		FULL RICH
Elevator Trim	+10		SET: 10°
Cowl Flaps	CLOSE		+25
Cruise Airspeed	125 KIAS (2 pers.+ 3/4 fuel)		86 KIAS
<i>Max Level Airspeed</i>	143 KIAS		
<i>Never Exceed Airspeed</i>	182 KIAS		
<i>Service Ceiling</i>	16,000 FT (LEAN 25%)		

DESCENT

Landing Gear CAN be used as spoiler up to 140 KIAS

Radios	CHECK FOR ATIS/AIRPORT INFORMAT.
Gyro / Heading	CHECK / CALIBRATE
Altimeter	SET / CALIBRATE
Fuel Quantity	CHECK
Fuel Selector	BOTH
Carburettor Heat	ON
Throttle	Typically 15" Hg
Propeller Control	2,100 RPM
Mixture	ENRICH AS NECESSARY
Elevator Trim	-30
Wing Flaps (initial)	10° (below 140 KIAS)
Airspeed	114 KIAS
Descent Rate (Vert. Speed)	-600 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Propeller Control	FEATHERED
Elevator Trim	+70
Airspeed	78 KIAS
Descent Rate (Vert. Speed)	-980 FPM
Glide Ratio	1 : 8.0

APPROACH

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN
■ Gear Light	LOCKED
■ Autopilot	AS DESIRED
■ Landing and Taxi Lights	ON
■ Propeller Control	HIGH RPM
■ Mixture	FULL RICH
■ Cowl Flaps	OPEN HALFWAY
■ Wing Flaps (intermediate)	20° AT 100 KIAS

FINAL AND LANDING

■ Carburettor Heat	ON
■ Parking Brake	VERIFY OFF
■ Wing Flaps: Full Down at ...	90 KIAS
■ Elevator Trim	NEUTRAL
■ Final Approach Airspeed	73 KIAS
■ Autopilot	OFF
■ Throttle (idle on touchdown)	Typically 15" Hg
■ Touchdown Airspeed	62 KIAS
<i>Stall Speed Clean</i>	<i>58 KIAS</i>
<i>Stall Speed All Down</i>	<i>47 KIAS</i>

AFTER LANDING – TAXI

■ Wing Flaps	UP AND NEUTRAL
■ Cowl Flaps	OPEN
■ Landing Lights	OFF
■ Carburettor Heat	OFF
■ Pitot Heat	OFF
■ Auxiliary Fuel Pump	OFF
■ Trim Tabs	NEUTRAL
■ Strobe	OFF

ENGINE SHUT-DOWN

■ Parking Brake	APPLY
■ Taxi Lights	OFF
■ Avionics Master	OFF
■ Throttle	IDLE
■ Propeller Control	LOW RPM
■ Mixture	IDLE CUT-OFF
■ Magnetos	OFF AFTER ENGINE STOPS
■ Fuel Selector	RIGHT (to prevent crossfeed)
■ Beacon	OFF
■ Navigation Lights	OFF
■ Instrument Panel Lights	OFF
■ Alternator	OFF
■ Master Battery Switch	OFF

AIRCRAFT BASIC SPECS

Engines n° and type	1 Prop-Piston-Variable
MTOW	3,300lb
Fuel usable capacity	95 gl Tanks: Left Main, Right Main
Range	1,050 nm, 7h 15'
T.off runway length	2,000 ft

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON
 Landing Gear	HANDLE DOWN+LOCKED(GREEN LIGHTS)
 Alternator	ON
 Amp & Volt Annunciator	0, VOLT LIGHT ON
 Avionics Master	OFF
 Navig. & Recog. Lights	AS REQUIRED
 Magnetos / Ignition	OFF
 Pitot Heat	OFF – GREEN ANNUNCIATOR OFF
 Propeller De-Ice	OFF – BLUE ANNUNCIATOR OFF
	ICE WARNING unaffected by this
 Fuel Gauges/Quantity	CHECK – LEFT & RIGHT FUEL ANNUNC. OFF
 Fuel Selector	ON FULLEST TANK
 Throttle	CRACKED (min)
 Propeller Control	HIGH RPM
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Cowl Flaps	OPEN
 Engine Rest Man.Pressure	NOTED (mostly 30" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED
 Fuel Boost Pump	OFF – GREEN ANNUNCIATOR OFF

STARTING (CTRL+E for autostart sequence)

 Beacon	ON
 Propeller Control	HIGH RPM
 Mixture	FULL RICH
 Throttle	OPEN 1/4 INCH
 Fuel Boost Pump	ON FOR 20-40 SEC. DEPENDING ON TEMP.
 Fuel Pressure	IN THE GREEN ARC
 Starter Switch / Magneto	START – ANNUNCIATOR ON
 Oil Pressure & Fuel Pressure	CHECK OK in <30 sec.
 Fuel Boost Pump	OFF – GREEN ANNUNCIATOR OFF
 Fuel Pressure & Oil Temper.	CHECK
 HI/LO VAC Annunciator	OFF
 Amp+Volt & Annunciator	POSITIVE, L.ALT VOLTS ANNUNCIAT. OFF

WARM UP AND TAXI

■ Fuel Selector
■ Temperatures & Pressures
■ Gyro / Heading
■ Altimeter
■ Flight Instruments
■ Brakes
■ Parking Brake
■ Throttle (for testing)
■ Temperatures & Pressures
■ Propeller
■ Amp
■ Magnetos: Maximum Drops
■ Throttle (for warm up)
■ Propeller De-Ice
■ Avionics Master
■ Autopilot
■ Speed Brakes (spoilers)
■ Wing Flaps
■ Taxi Lights
■ Taxi Throttle f. steady Speed
■ Taxi Turns: Gyro&Turn Co.

SWITCH TANKS+CHECK
CHECK INCLUDING CHT
CALIBRATE
CALIBRATE
CHECK
CHECK (disengages parking brake!)
APPLY
2,000 RPM
CHECK
EXERCISE (2-3 times, no more than 400RPM drop)
POSITIVE
ON EACH 150 PM, BETW. MAGN. 50 RPM
1,000 RPM
AS REQUIRED – BLUE ANNUNCIATOR
ICE WARNING unaffected by this
ON / SET AS PER FLIGHT PLAN
SET AND OFF
OFF – LIGHT AND ANNUNCIATOR OFF
UP, FULL DOWN, VISUAL CHECK, UP
ON
1,500 RPM - 15 KIAS
CHECK

PRE-TAKEOFF

■ Throttle	IDLE
■ Propeller Control	HIGH RPM
■ Mixture	FULL RICH
■ Elevator Trim	SET TO "T/O" MARK = -10
■ Wing Flaps	SET TO "T/O" MARK = 10°
■ Cowl Flaps	CHECK OPEN
■ Fuel Boost Pump	ON – GREEN ANNUNCIATOR ON
■ Pitot Heat	ON – GREEN ANNUNCIATOR ON
■ Strobe and Landing Lights	ON

TAKEOFF (sea level or low altitude)

■ Brakes (parking or pedal)	RELEASE
■ Throttle	Full => 38" Hg MAN.PRES. (red mark)
■ Propeller Control	High => 2,600 RPM (red mark)
■ Decision (V1)	60 KIAS
■ Rotate (ave.)	70 KIAS
■ Attitude Angle	10-15°
■ Landing Gear (w/posit.climb)	RETRACT – RED LIGHT & ANNUNCIATOR
■ Airspeed (airborne & gear up)	85 KIAS
■ Landing and Taxi Lights	OFF

CLIMB (once clear of obstacles)

Landing Gear Latched	RED LIGHT & GEAR-UNSAFE ANNUNC. OFF
Wing Flaps	RETRACT AND VERIFY
Fuel Boost Pump	OFF – GREEN ANNUNCIATOR OFF
Throttle	33” Hg MAN.PRES.; ABOVE 5,000 FT: FULL
Propeller Control	2,400 RPM
Elevator Trim (ave.)	+16
Airspeed	110 KIAS
Climb (Vertical Speed)	+700 FPM
Mixture: Lean above ...	4,000 FT

CRUISE @ 50% Fuel Load

Typical Altitude	LOW HIGH
Gyro / Heading	10,000 FT 20,000 FT
Altimeter	CHECK / CALIBRATE
Throttle	CALIBRATE ABOVE FL180 SET TO 29.92”
Propeller Control	33” Hg MAN.PRES.
Mixture (Lean for max. TIT)	2,250 RPM
Elevator Trim	36% 20%
Cowl Flaps	-03 -05
Propeller De-Ice	CLOSE (UNLESS NEEDED)
Cruise Airspeed	OFF – BLUE ANNUNCIATOR OFF
<i>Max Level Airspeed</i>	152 KIAS 144 KIAS (2 persons)
<i>Never Exceed Airspeed</i>	173 KIAS 155 KIAS
<i>Service Ceiling</i>	195 KIAS
	25,000 FT (LEAN 17%)

DESCENT

Radios	CHECK FOR ATIS/AIRPORT INFORMAT.
Gyro / Heading	CHECK / CALIBRATE
Altimeter	SET / CALIBRATE
Fuel Quantity	CHECK
Fuel Selector	ON FULLEST TANK
Throttle	Typically 20” Hg Don’t idle. Keep CHT in green.
Propeller Control	If you need to slow down use Speed Brakes.
Mixture	2,000 RPM
Elevator Trim	ENRICH as needed for Max. TIT
Airspeed	-02
Descent Rate (Vert. Speed)	138 KIAS
Wing Flaps	-700 FPM
	UP

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

Propeller Control	FEATHERED
Elevator Trim	+12
Airspeed	110 KIAS
Descent Rate (Glide Ratio)	-1,000 FPM (1 : 11)

APPROACH

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN
■ Gear Lock / Lights	LOCKED
■ Autopilot	AS DESIRED
■ Landing and Taxi Lights	ON
■ Propeller Control	HIGH RPM
■ Mixture	FULL RICH
■ Fuel Boost Pump	ON – GREEN ANNUNCIATOR ON
■ Cowl Flaps	OPEN HALFWAY
■ Speed Brakes (spoilers)	AS NEEDED TO AVOID THROTTLE IDLE
■ Wing Flaps	SET TO "T/O"=10° AT 110 KIAS

FINAL AND LANDING

■ Parking Brake	VERIFY OFF
■ Wing Flaps: Full Down at ...	95 KIAS
■ Final Approach Airspeed	85 KIAS
■ Autopilot	OFF
■ Throttle (idle only on tchdn.)	Typically 20" Hg (don't idle! Use Speed Brakes!)
■ Speed Brakes (spoilers)	AS NEEDED TO AVOID THROTTLE IDLE
■ Touchdown Airspeed	75 KIAS
<i>Stall Speed Clean</i>	<i>66 KIAS</i>
<i>Stall Speed All Down</i>	<i>59 KIAS</i>

AFTER LANDING - TAXI

■ Speed Brakes (spoilers)	OFF – LIGHT AND ANNUNCIATOR OFF
■ Wing Flaps	UP AND NEUTRAL
■ Cowl Flaps	OPEN
■ Pitot Heat	OFF – GREEN ANNUNCIATOR OFF
■ Propeller De-Ice	OFF – BLUE ANNUNCIATOR OFF
■ Fuel Boost Pumps	OFF – GREEN ANNUNCIATOR OFF
■ Trim Tabs	NEUTRAL
■ Strobe and Landing Lights	OFF

ENGINE SHUT-DOWN If AI is needed after shutdown, switch on STBY VAC Pump.

■ Parking Brake	APPLY
■ Taxi Lights	OFF
■ Avionics Master	OFF
■ Throttle	IDLE
■ Propeller Control	LOW RPM
■ Mixture	IDLE CUT-OFF
■ Magnetos	OFF AFTER ENG. STOPS – VAC & VOLTS ANNUNC.
■ Fuel Selector	LEFT (to prevent crossfeed)
■ Beacon, Nav & Recog. Lights	OFF
■ Instrument Panel Lights	OFF
■ Alternator	OFF
■ Master Battery Switch	OFF

AIRCRAFT CHECKLIST

Carenado model., T/O full fuel, 3,400lb

336 Cessna U206G 'Stationair'**Standard / Cargo / Amphibian****AIRCRAFT BASIC SPECS**

Engines n° and type	1 Prop-Piston-Variable
MTOW	3,600 lb
Fuel usable capacity	92 gal Tanks: Left Main, Right Main
Range	690 / 650 / 630 ml, 5h 30'
T.off runway length	1,100 ft (below 2,000 ft altitude)

BEFORE STARTING

 Parking Brake	SET (land)	
 Master Battery Switch	ON	
 Landing Gear	GEAR DOWN (land)	GEAR UP (water)
 Alternator	ON	
 Avionics Power	OFF	
 Nav Lights	AS REQUIRED	
 Magnetos / Ignition	OFF	
 Pitot Heat	OFF	
 Fuel Gauges/Quantity	CHECK	ICE WARNING – De-Ice is automatic
 Fuel Selector	FULLEST TANK	
 Throttle	CRACKED (min)	
 Propeller Control	HIGH RPM	
 Mixture	IDLE CUTOFF	
 Trim Tabs	NEUTRAL	
 Cowl Flaps	OPEN	
 Engine Rest Man.Pressure	NOTED (mostly 30" Hg)	
 Flight Controls	FREE/Full travel	
 Instrument Panel Lights	AS REQUIRED	
 Auxiliary Fuel Pump	OFF	

STARTING (CTRL+E for autostart sequence)

 Beacon	ON
 Propeller Control	HIGH RPM
 Mixture	FULL RICH (or less if above 3,000 FT)
 Auxiliary Fuel Pump	ON (red switch only)
 Throttle	OPEN to get 9 Gal/hr Fuel Flow then CLOSE
 Auxiliary Fuel Pump	OFF
 Primer	1 STROKE IF COLD, 6 IF VERY HOT
 Starter Switch / Magneto	START
 Oil Pressure	≥25 in <30 sec.
 Oil Temperature	CHECK
 Suction	CHECK
 Volts (on Clock)	CHECK ≈ 23 V
 Amperes	CHECK ≥ 0 A

WARM UP AND TAXI

■ Fuel Selector
■ Temperatures & Pressures
■ Gyro / Heading
■ Altimeter
■ Flight Instruments
■ Brakes
■ Parking Brake
■ Throttle (for testing)
■ Temperatures & Pressures
■ Propeller
■ Magnetos: Maximum Drops
■ Throttle (for warm up)
■ Avionics Power
■ Radios
■ Autopilot
■ Wing Flaps
■ Taxi Lights
■ Taxi Throttle f. steady Speed
■ Taxi Turns: Gyro& Turn Co.

SWITCH TANK,CHECK, BACK FULLEST
CHECK INCLUDING CHT
CALIBRATE
CALIBRATE
CHECK
CHECK (land)
APPLIED (land)
1,700 RPM
CHECK
EXERCISE (twice, check no more than 400RPM drop)
ON EACH 150 RPM, BETW. MAGN. 50 RPM
1,100 RPM
ON
SWITCH ON & SET AS PER FLIGHT PLAN
SET AND OFF
UP, FULL DOWN, VISUAL CHECK, UP
ON
1,650 RPM – 16 KIAS
CHECK

PRE-TAKEOFF

■ Strobe	ON
■ Throttle	IDLE
■ Propeller Control	HIGH RPM
■ Mixture	FULL RICH (or less if above 3,000 FT)
■ Elevator Trim	+15
■ Wing Flaps	SET TO 10° (20° for short rwy)
■ Cowl Flaps	CHECK OPEN
■ Auxiliary Fuel Pump	OFF
■ Pitot Heat	ON
■ Transponder	ON
■ Landing Lights	ON – ALL LIGHT SWITCHES ON

TAKEOFF (sea level or low altitude)

■ Brakes (parking or pedal)	RELEASE (land)
■ Throttle	Full => 27"+ Hg MAN.PRES.
■ Propeller Control	HIGH => 2,850 RPM
■ Decision (V1)	55 KIAS
■ Rotate (ave.)	60 KIAS / 65 KIAS
■ Attitude Angle	10-15°
■ Landing Gear	RETRACT (land)
■ Airspeed (airborne)	≥ 70 KIAS
■ Landing and Taxi Lights	OFF

CLIMB (once clear of obstacles)**Do not exceed 17 of Fuel Flow!**

Landing Gear (w/posit.climb)

VERIFY UP - LATCHED

Wing Flaps

RETRACT AND VERIFY (AT > 75 KIAS)

Throttle

23" Hg MAN.PRES.; ABOVE 6,000 FT: FULL

Propeller Control

2,500 RPM

Elevator Trim (ave.)

+08

Airspeed

95-100 KIAS

Climb (Vertical Speed)

+700 FPM

Mixture: Lean above ...

3,000 FT for max. EGT**CRUISE @ 75% Fuel Load****NORMAL****| LOW CITY**

Typical Altitude

8,000 FT**| 600 FT**

Gyro / Heading

CHECK / CALIBRATE

Altimeter

SET / CALIBRATE

Throttle

21" Hg MAN.PRES.**| 16" Hg MAN.PRES.**

Propeller Control

2,300 RPM**| 2,500 RPM**

Mixture (Lean for max. EGT)

43%**| FULL RICH**

Wing Flaps

| SET: 10°

Elevator Trim

-06 / -03 / +02**| +05**

Cowl Flaps

CLOSE

Cruise Airspeed

127 / 118 / 115 KIAS(3/4 fuel) | 90 KIAS*Max Level Airspeed**150 KIAS**Never Exceed Airspeed**185 KIAS**Service Ceiling**18,000 FT (LEAN 21%)***DESCENT**

Radios

CHECK FOR ATIS/AIRPORT INFORMAT.

Gyro / Heading

CHECK / CALIBRATE

Altimeter

SET / CALIBRATE

Pitot Heat

ON

Fuel Selector

ON FULLEST TANK

Propeller Control

2,100 RPM (mid-knob détente)

Throttle

Typically 18" Hg (lowers RPM to 1,800)

Mixture

ENRICH AS NECESSARY

Elevator Trim

-10

Wing Flaps (initial)

10° (below 140 KIAS)

Airspeed

114 KIAS

Descent Rate (Vert. Speed)

-600 FPM**GLIDE WITH ALL ENGINES OUT (optimal glide ratio)**

Propeller Control

FEATHERED

Elevator Trim

+15

Airspeed

86 KIAS

Descent Rate (Vert. Speed)

-1,085 FPM

Glide Ratio

1 : 8.0

APPROACH

- Radios
- Landing Gear
- Gear Lights
- Water Rudders
- Autopilot
- Landing and Taxi Lights
- Propeller Control
- Mixture
- Cowl Flaps
- Elevator Trim
- Wing Flaps (intermediate)

SET FOR APPROACH

DOWN (land)
DOWN AMBER (land) | **UP BLUE (water)**
UP
AS DESIRED
ON
HIGH RPM
FULL RICH
OPEN HALFWAY
+05
20° AT 100 KIAS

FINAL AND LANDING

- Parking Brake
- Wing Flaps: Full Down at ...
- Elevator Trim
- Final Approach Airspeed
- Autopilot
- Throttle (idle on touchdown)
- Touchdown Airspeed
- Stall Speed Clean*
- Stall Speed All Down*

VERIFY OFF
90 KIAS
NEUTRAL
70 KIAS
OFF
Typically 13" Hg
60 KIAS
58 KIAS
46 KIAS

AFTER LANDING – TAXI

- Water Rudders
- Wing Flaps
- Cowl Flaps
- Landing Lights
- Pitot Heat
- Auxiliary Fuel Pump
- Trim Tabs
- Strobe

| **DOWN (water)**

UP AND NEUTRAL
OPEN
OFF
OFF
OFF
NEUTRAL
OFF

ENGINE SHUT-DOWN

- Parking Brake
- Taxi Lights and Avionics
- Throttle
- Propeller Control
- Mixture
- Magnetos
- Fuel Selector
- Beacon and Nav Lights
- Instrument Panel Lights
- Alternator
- Master Battery Switch

APPLY (land)
OFF
IDLE
LOW RPM
IDLE CUT-OFF
OFF AFTER ENGINE STOPS
RIGHT (to prevent crossfeed)
OFF
OFF
OFF
OFF – CHOCKS ON

AIRCRAFT CHECKLIST

445 de Havilland Canada DHC-2 'Beaver'

Values valid for the Aerosoft model, as tested.

* = Values from Aerosoft and online info.

AIRCRAFT BASIC SPECS

Amphibian / Floats / Wheels

Engines n° and type	1 Prop-Piston-Variable
MTOW	5,100 lb Door 2 in some models only
Fuel usable capacity	95 gl Tanks: Centre Front, Centre Main, Centre Rear
Range	676 nm, 6h 20' Upper gauge ↗
T.off runway length	1,200 ft without flaps*

BEFORE STARTING

 Parking Brake	SET (land) – apply only if aircraft fully stopped!
 All Switches	OFF (Master, Avionics and Lower Row)
 Master Switch	ON, Fuel Pressure Lamp
 Instrument Panel Lights	AS REQUIRED
 Landing Gear	GEAR DOWN (land) GEAR UP (water)
 Water Rudders	UP (land) DOWN (water)
 ADI	UNCAGED (cage only during turns)
 Nav Lights	AS REQUIRED
 Carburettor Heat	COLD (off)
 Fuel Gauges/Quantity	CHECK
 Throttle	CRACKED (min)
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Cowl Flaps	OPEN (vertical handle; no visible external part)
 Engine enclosure	ON (use speedbrake control)

STARTING (CTRL+E for autostart sequence)

 Fuel Selector	FULLEST TANK
 Propeller Control	HIGH RPM (full forward)
 Mixture	FULL RICH (or less if above 2,000 FT)
 Energise, Engage, Fuel Cutoff	ON
 Fuel Pump	ON
 Fuel Pressure gauges	Lamp OFF; Gauge green (othw. check hidden fuel valve)
 Throttle	1/4" (1/8th) OPEN
 Magnetos	BOTH
 Starter Clutch switch	START, release when engine starts
 Oil Pressure	≥50lb in <30 sec.
 Propeller Control	MID RPM
 Oil Temperature	CHECK ≥ 40°C
 Throttle (for warm up)	1,000 RPM ≈ 1/4th
 Suction	CHECK between 3.8 and 4.8
 Volts	CHECK > 22 V
 Amperes	CHECK ≥ 0 A

WARM UP AND TAXI

Fuel Selector
 Temperatures & Pressures
 Gyro / Heading
 Altimeter
 Flight Instruments
Brakes
Parking Brake
 Oil Temperature
 Throttle (for testing)
 Mixture (testing)
 Propeller RPM
 Magnetos: Maximum Drops
 Throttle (idle check)
 Throttle (for warm up)
 Carburettor Heat
 Pitot Heat
 Fuel Pump
 Avionics Power
 Radios
 Wing Flaps
 Taxi Lights
 Flight Controls
 Taxi Throttle f. steady Speed
Taxi Turns for taildragger
 Taxi Turns: Gyro& Turn Coo.

SWITCH TANK,CHECK, BACK FULLEST CHECK
CALIBRATE
CALIBRATE
CHECK
CHECK (land): disengages parking brake APPLIED (land)
 >= 40°
1,600 RPM => 25" Hg MAN.PRES.
LEAN 40%, no RPM drop, FULL RICH EXERCISE, about 600 RPM drop, leave HIGH 100 RPM
IDLE, >=450 RPM
SMOOTH TO 2,000, then 1,200 RPM
ON, RPM DROP <100, OFF
ON, RPM DROP < 50 , OFF
OFF, FUEL PRESS. GREEN, NO RPM DROP
ON, AMP INCREASE
SWITCH ON & SET AS PER FLIGHT PLAN UP, FULL DOWN, VISUAL CHECK, UP ON
 FREE/Full travel
950 RPM – 16 KIAS, do not exceed 20 KIAS
USE BOTH TAILWHEEL & DIFF. BRAKES CHECK

PRE-TAKEOFF

Strobe
 Fuel Pump
 Throttle
 Propeller Control
 Mixture
 Elev. Trim (**land/water/land**)
 Rudder Trim
Water Rudders
 Wing Flaps
 Cowl Flaps
 Pitot Heat
 Transponder
 Taxi Lights
 Landing Lights

ON
ON
IDLE
 HIGH RPM (or less if above 3,000 FT)
 FULL RICH (or less if above 3,000 FT)
+10 / +10 / NEUTRAL
RIGHT 5
UP
CLIMB (15°) or TAKE OFF (35°) for short rwy
 CHECK OPEN (vertical handle)
ON
ON
OFF (Taxi and Landing Lights together are very bright)
ON

TAKEOFF

- Brakes (parking and pedal)
- Throttle
- Propeller Control
- Tail Up for taildragger
- Decision (V1)
- Rotate (land/water/land)
- Attitude Angle
- Landing Gear
- Airspeed (airborne)
- Landing Lights

CLIMB(once clear of obstacles)

- Landing Gear(w/posit.climb)
- Wing Flaps
- Fuel Pump
- Throttle (more at high altit.)
- Propeller Control
- Elevator Trim (ave.)
- Rudder Trim
- Airspeed (ave.)
- Climb (Vertical Speed)
- Mixture: Lean f/max RPM

CRUISE @ 60% Fuel Load

- Typical Altitude
- Gyro / Heading
- Altimeter
- Throttle (MAN.PRES.)
- Propeller Control
- Mixture (Lean f/max. RPM)
- Wing Flaps
- Elevator Trim
- Rudder Trim
- Cowl Flaps
- Carburettor Heat
- Cruise Airspeed
- Max Level Airspeed*
- Never Exceed Airspeed*
- Service Ceiling*

NORMAL | **SHORT RWY****RELEASE (land)**

- Red zone => 36" Hg | 37" Hg
- HIGH RPM, between 2,100 and 2,300 RPM
- 45 KIAS | 40 KIAS
- 55 KIAS | 50 KIAS
- 65 / 67 / 63 KIAS | 55 KIAS
- 5-10°
- RETRACT (land)**
- ≥ 73 KIAS
- OFF**

NORMAL**FAST CLIMB****VERIFY UP - LATCHED****RETRACT TO CLIMB (15°) (AT > 80 KIAS)****OFF**

32 / 32 / 31" Hg

35" Hg

HIGH RPM BUT WITHIN GREEN ARC

+10 / +17 / +15

+23 / +29 / +12

RIGHT 8

83 KIAS

74 / 78 / 80 KIAS

+600/+600/+700 FPM

+800/+900/+1,100 FPM

2,000 FT: 62% 7,000 FT: 45% 14,000 FT: 27%
 4,000 FT: 54% 10,000 FT: 37% 18,000 FT: 20%

NORMAL | **ECON.** | **LOW (amph.)**

7,000 FT

1,000 FT

CHECK / CALIBRATE**SET / CALIBRATE**

29"* Hg

28"* Hg

29" Hg

1,900* RPM

1,800* RPM

1,900 RPM

45%

80%

UP

+13 / +20 / +11 | ≈+14

+10

RIGHT 3 / 3 / 1**RIGHT 3****CLOSE (horizontal handle)****AS REQUIRED (these specs assume OFF)**

109 / 110 / 118 KIAS | 106

| 111 KIAS

143 KIAS

160 KIAS

18,000 FT

DESCENT @ 60% Fuel Load

■ Radios	CHECK FOR ATIS/AIRPORT INFORMAT.
■ Gyro / Heading	CHECK / CALIBRATE
■ Altimeter	SET / CALIBRATE
■ Pitot Heat	ON
■ Carburettor Heat	ON
■ Fuel Selector	ON FULLEST TANK
■ Propeller Control	1,800 RPM
■ Throttle	21 / 21 / 19" Hg MAN. PRESS.
■ Mixture	ENRICH AS NECESSARY (see CLIMB)
■ Elevator Trim	+25 / +25 / +22
■ Rudder Trim	RIGHT 2
■ Airspeed	105 KIAS
■ Descent Rate (Vert. Speed)	-700 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

■ Propeller Control	FEATHERED
■ Elevator Trim	+73
■ Airspeed	75 KIAS
■ Descent Rate (Vert. Speed)	-1,050 FPM
■ Glide Ratio	1 : 7.3

APPROACH

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN (land) (below 110 KIAS)
■ Gear Light	GREEN (land)
■ Water Rudders	UP
■ Landing Lights	ON
■ Throttle	21 / 21 / 18" Hg MAN. PRESS.
■ Propeller Control	HIGH RPM (less at high altitudes)
■ Mixture	FULL RICH (less at high altitudes)
■ Fuel Pump	ON
■ Cowl Flaps	OPEN (vertical handle)
■ Elevator Trim	+28
■ Descent Rate (Vert. Speed)	≈ -700 FPM
■ Wing Flaps (initial)	CLIMB (15°) below 105 KIAS
■ Elevator Trim	+12 / +12 / +08
■ Wing Flaps (intermediate)	TAKEOFF (35°) BELOW 95 KIAS
■ Throttle	25" Hg MAN. PRESS:
■ Elevator Trim	-30

FINAL AND LANDING

- **Parking Brake**
- **Water Rudders**
- Wing Flaps: LANDING at ...
- Throttle
- Elevator Trim
- Final Approach Airspeed
- Final Approach VSI
- Throttle over runway
- Touchdown Airspeed
- **Wheel Brakes**
- Stall Speed Clean*
- Stall Speed All Down*

Amph.: Land / Floats: Water / Wheels: Land

VERIFY OFF
 UP
 <90 KIAS
 34 / 31 / 34” Hg MAN. PRESS.
 -30 / -30 / -36
 75 KIAS
 -450 FPM
 27” Hg MAN. PRESS. (idle after touchdown)
 60 KIAS (4 wheels simultaneously)
 Let the tail drop fully, then **APPLY MINIMAL**
 52 KIAS
 40 KIAS

AFTER LANDING – TAXI

- **Water Rudders** UP (land) | DOWN (water)
- Wing Flaps UP AND NEUTRAL
- Landing Lights OFF
- Taxi Lights ON
- Trim Tabs NEUTRAL
- Strobe OFF

ENGINE SHUT-DOWN

- **Parking Brake** APPLY (land)
- Taxi Lights OFF
- Avionics OFF
- Pitot Heat OFF
- Carburettor Heat OFF
- Fuel Pump OFF
- Throttle (increase) 18” Hg MAN. PRESS.
- Propeller Control MIN RPM, allow to stabilise ≈1,000 RPM
- Throttle IDLE, allow to stabilise ≈500 RPM
- Mixture IDLE CUT-OFF – Fuel Pressure Lamp
- Magnetos OFF AFTER ENGINE STOPS
- Fuel Selector OFF
- Nav Lights OFF
- Instrument Panel Lights OFF
- Master Switch OFF – Should show tetherings or chocks
- Engine enclosure OFF – Use speedbrake control

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AIRCRAFT CHECKLIST

Values valid for the Carenado model, as tested.

446 Piper PA-34 'Seneca II'

* = Values from Carenado's documents.

AIRCRAFT BASIC SPECS

Engines n° and type	2 Prop-Piston-Variable
MTOW	4,570 lb *
Fuel usable capacity	93 gl * Tanks: Left Main, Right Main
Range	982 nm, 6h 20'
T.off runway length	1,700 ft (short field: 1,100 ft)

Alternate Air: in this model not a Carb. Heat but an inoperative emergency engine restart device, not included in the 2D panel.

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON (ANNUNC.: OIL, GYRO AIR, ALT)
 Landing Gear	HANDLE DOWN+LOCKED (THREE LIGHTS)
 Alternators	ON – ALTERNATORS AMPS: BOTH 0
 Avionics Master	OFF
 Nav Lights	ON
 Magnetos Cover	UNCOVER SWITCHES
 Starters and Magnetos	OFF
 Pitot Heat	OFF
 De-ice (decorative: no effect!)	OFF – ICE WARNING is unaffected by this
 Fuel Boost Pumps	OFF (only to be used for emergency re-start)
 Fuel Gauges/Quantity	CHECK
 Fuel Selectors	BOTH ON
 Throttles	CRACKED (min)
 Propellers Control	HIGH RPM
 Mixtures	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Cowl Flaps	OPEN (decorative only: no effect)
 Engine Rest Man.Pressure	NOTED (normally 29" Hg)
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED

STARTING - for each engine (CTRL+E for autostart sequence)

 Propellers Control	HIGH RPM
 Throttle	50% TRAVEL
 Magnetos	BOTH
 Primer	1 STROKE IF COLD, 5 IF VERY HOT
 Mixture	FULL RICH (less if > 3,000 FT or very hot)
 Starter Switch	START; RELEASE W/ENG. RUNNING
 Starter Annunciator	ON THEN OFF
 Throttle (when eng. starts)	RETARD TO 25% TRAVEL, 1,100 RPM
 Oil Pressure	CHECK >= 30 PSI (GREEN) in <30 sec.
 Oil Temperature	CHECK GREEN
 Gyro Pressure (Suction)	CHECK (4.5" Hg to 5.2" Hg)
 Alternator Amps	~25A AND ANNUNC. OFF (w/ both eng. started)

WARM UP AND TAXI

FS: Select Engines
Fuel Selectors
Gyro Heading
Altimeter
Flight Instruments
Brakes
Parking Brake
Avionics Master
Propellers
Throttles (for testing)
Temperatures & Pressures
Alternator and Annunciators
Magnetos: Maximum Drops
Magnetos Cover
Throttles (for warm up)
Annunciator Panel
De-ice
Radios
Autopilot
Temperatures & Pressures
Wing Flaps
Taxi Light
Taxi Throttle f.steady Speed
Taxi Turns: Gyro+Turn Coo

ALL
X-FEED BOTH THEN NORMAL
CALIBRATE
CALIBRATE
CHECK
CHECK (disengages parking brake!)
APPLY
ON (needed for the roof Annunciator panel)
EXERCISE (twice, drop \leq 400RPM), **HIGH**
1,900 RPM *
CHECK
 ~25A AND ALL ANNUNCIATORS OFF
ON EACH 150 PM, BETW. MAGN. 50 RPM*
COVER SWITCHES
900 RPM *
PRESS TO TEST
AS REQUIRED (Remember: it is ineffective)
SWITCH ON & SET AS PER FLIGHT PLAN
SET AND OFF
CHECK ALL GREEN; OIL TEMP. > 24° C
UP, FULL DOWN, VISUAL CHECK, UP
ON (located to the left of the nose gear)
1,050 RPM – 15 KIAS
CHECK

PRE-TAKEOFF

Strobe
Throttle
Propellers Control
Mixtures
Elevator Trim
Wing Flaps
Cowl Flaps
Pitot Heat
Landing Light

ON
IDLE (RPM ON GREEN ARC)
HIGH RPM
AS REQUIRED BY FIELD ELEVATION
+30
UP (10° or 25° for very short field)
OPEN
ON
ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)
Throttles
Propellers Control
Decision (V1)
Rotate (ave.)
Attitude Angle
Landing Gear (w/pos.climb)
Airspeed (airborne gear up)

RELEASE
 ~7/8 \Rightarrow **39" Hg MAN.PRES. (40 max. !)** *
2,550 RPM *
65 KIAS
70 KIAS *
10°
RETRACT – TRANSITION RED LIGHT ON
> 90 KIAS

SHORT FIELD

55 KIAS
60 KIAS *

> 80 KIAS

CLIMB (once clear of obstacles)

■ Landing Gear	UP – TRANSITION AND THREE LIGHTS OFF
■ Wing Flaps	VERIFY OFF
■ Landing and Taxi Lights	OFF
■ Fuel Boost Pumps	OFF, LO IF OAT HIGHER THAN 32°C
■ Throttles	32” Hg MAN.PRES.
■ Propellers Control	2,500 RPM (2,400 AT 4,000 FT)
■ Elevator Trim (ave.)	+22
■ Airspeed	103 KIAS *
■ Climb (Vertical Speed)	+800 FPM
■ Cowl Flaps	HALF OPEN *
■ Mixture: Lean f/max RPM	2,000 FT: 59% 7,000 FT: 45% 15,000 FT: 26% 4,000 FT: 54% 10,000 FT: 38% 20,000 FT: 19%

CRUISE

■ Typical Altitude	9,000 FT
■ Gyro Heading and Altimeter	CHECK & CALIBRATE
■ Throttles	32” Hg MAN.PRES.
■ Propellers Control	2,300 RPM
■ Mixtures	LEAN 40% OR JUST BELOW MAX. EGT
■ Elevator Trim	-05
■ Cowl Flaps	CLOSE
■ De-ice	AS REQUIRED (Remember: it is ineffective)
■ Cruise Airspeed	154 KIAS
<i>Max Level Airspeed</i>	<i>173 KIAS AT 9,000 FT</i>
<i>Never Exceed Airspeed</i>	<i>195 KIAS *</i>
<i>Service Ceiling</i>	<i>24,000 FT (LEAN 17%)</i>

DESCENT @ 40% Fuel

Radios	Landing Gear CAN be used as spoiler up to 130 KIAS
■ Gyro Heading	CHECK FOR ATIS/AIRPORT INFO
■ Altimeter	CHECK / CALIBRATE
■ Fuel Quantity & Selectors	SET / CALIBRATE
■ Throttles	CHECK AND X-FEED IF NEEDED
■ Propellers Control	20” Hg typically
■ Mixtures	2,000 RPM
■ Elevator Trim	ENRICH AS NECESSARY (see CLIMB)
■ Wing Flaps	NEUTRAL
■ Airspeed	UP
■ Descent Rate (Vert. Speed)	140 KIAS
	-700 FPM

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

■ Propellers Control	FEATHERED
■ Elevator Trim	+24
■ Airspeed	101 KIAS (129 *)
■ Descent Rate (Vert. Speed)	-725 FPM
■ Glide Ratio	1:14

APPROACH @ 40% Fuel

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN (ONLY BELOW 130 KIAS *)
■ Gear Locked	TRANS RED LIGHT OFF, THREE GREEN ON
■ Autopilot	AS DESIRED
■ Landing and Taxi Lights	ON
■ Propellers Control	2,250 RPM *
■ Throttles	22.5" Hg
■ Mixtures	AS REQUIRED BY FIELD ELEVATION
■ Wing Flaps (initial)	10° below 107 KIAS
■ Elevator Trim	+22
■ Airspeed	102 KIAS
■ Cowl Flaps	OPEN HALFWAY
■ Wing Flaps (intermediate)	25° AT 100 KIAS

FINAL AND LANDING

■ Parking Brake	VERIFY OFF
■ Wing Flaps: Full Down at...	95 KIAS
■ Propellers Control	HIGH RPM
■ Throttles	23.5" Hg
■ Elevator Trim	+30
■ Final Appr. Airspeed / VSI	87 KIAS * / -500 FPM
■ Autopilot	OFF
■ Throttles (idle on touchdn.)	20" Hg
■ Touchdown Airspeed	70-80 KIAS
<i>Stall Speed Clean / All Down</i>	<i>72 / 62 KIAS</i>

AFTER LANDING - TAXI

■ Wing Flaps	RETRACT
■ Cowl Flaps	OPEN
■ Pitot Heat and ■ De-Ice	OFF
■ Fuel Boost Pumps	OFF
■ Strobe and Landing Lights	OFF
■ Trim Tabs	NEUTRAL

ENGINE SHUT-DOWN

■ Parking Brake	SET
■ Taxi Light	OFF
■ Avionics Master	OFF
■ Throttles	IDLE
■ Propellers Control	LOW RPM
■ Mixtures	IDLE CUT-OFF
■ Magnetos	OFF AFTER ENGINES STOP
■ Fuel Selectors	OFF
■ Nav and Panel Lights	OFF
■ Alternators	OFF
■ Master Battery Switch	OFF

AIRCRAFT CHECKLIST

Values valid for the DreamFleet flight dynamics.

455 Beechcraft Baron 58

Values for the default dynamics, whenever different, are printed in grey

AIRCRAFT BASIC SPECS

Engines n° and type	2 Prop-Piston-Variable
MTOW	5,500 lb 5,100 lb
Fuel usable capacity	200 gl 142 gl Tks: L & R Tip, L & R Main
Range	1,569 nm, 9h 45'
T.off runway length	3,500 ft 2,200 ft

BEFORE STARTING

 Parking Brake	SET
 Master Battery Switch	ON
 Landing Gear	HANDLE DOWN+LOCKED(GREEN LIGHTS)
 Alter.: Load/Volts/Annunc.	LOAD 0, VOLT>20, ALTR LIGHTS ON
 Alternators	ON
 Avionics Master	OFF
 Nav Lights	AS REQUIRED
 Starter Switch / Magnetos	OFF
 Pitot Heat	OFF
 Propellers & Boot De-ice	OFF – ICE WARNING is unaffected by these
 Fuel Boost Pumps	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Selectors	ON (BOTH UP)
 Throttles	CRACKED (min)
 Propellers Control	HIGH RPM
 Mixtures	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Cowl Flaps	OPEN CLOSED
 Flight Controls	FREE/Full travel
 Instrument Panel Lights	AS REQUIRED

STARTING - for each engine (CTRL+E for autostart sequence)

 Beacon	ON
 Propellers Control	HIGH RPM
 Mixture	FULL RICH
 Throttle	OPEN ½ INCH
 Fuel Boost Pump	HI
 Starter Switch / Magnetos	START; REL. WHEN ENGINE STARTS
 Starter Annunciator	ON THEN OFF
 Oil Pressure	CHECK >= 10 PSI in <30 sec.
 Fuel Flow	CHECK
 Oil Temperature	CHECK
 Instrument Air	CHECK > 4.0
 Alter.: Load/Volts/Annunc.	POSITIVE, ALTR LIGHT OFF

WARM UP AND TAXI

FS: Select Engines	ALL
Propeller Synchrophaser	ON
Fuel Selectors	SWITCH TANKS+CHECK
Temperatures & Pressures	CHECK INCLUDING CHT & EGT
Fuel Boost Pumps	OFF, BUT LO IF AMBIENT TEMP>32°C
Gyro / Heading	CALIBRATE
Altimeter	CALIBRATE
Flight Instruments	CHECK
Brakes	CHECK (disengages parking brake!)
Parking Brake	APPLY
Throttles (for testing)	1,700 RPM
Propellers	EXERCISE (2-3 times, no more than 400RPM drop)
Alter.: Load/Volts/Annunc.	CHECK
Magnetos: Maximum Drops	ON EACH 150 PM, BETW. MAGN. 50 RPM
Throttles (for warm up)	900 RPM ≈ IDLE
Propellers & Boot De-ice	AS REQUIRED (Ineffective)
Avionics Master & Radios	ON & SET
DME & HSI	ON & Click on HSI for a realistic large one
Autopilot	SET AND OFF
Temperatures & Pressures	CHECK; OIL TEMP. > 24° C
Wing Flaps	UP, FULL DOWN, VISUAL CHECK, UP
Taxi Lights	ON
Taxi Throttle f.steady Speed	1,350 RPM – 15 KIAS
Taxi Turns: Gyro+Turn Coo	CHECK

PRE-TAKEOFF

Throttle	IDLE
Propellers Control	HIGH RPM
Mixtures	AS REQUIRED BY FIELD ELEVATION
Trim Tabs	NEUTRAL
Wing Flaps	UP
Cowl Flaps	OPEN OPEN
Pitot Heat	ON
Strobe and Landing Lights	ON

TAKEOFF (sea level or low altitude)

Parking Brake	HOLD ON
Throttles	Smoothly to Full => 28" Hg MAN.PRES.
Propellers Control	High =>2,700 RPM
Parking Brake	RELEASE
Decision (V1)	70 KIAS
Rotate (ave.)	85 KIAS
Attitude Angle	10°
Landing Gear (w/pos.climb)	RETRACT – TRANS RED LIGHT ON
Airspeed (airborne gear up)	> 105 KIAS

CLIMB (once clear of obstacles)

■ Landing Gear	VERIFY UP - LIGHTS OFF
■ Wing Flaps	VERIFY OFF
■ Landing and Taxi Lights	OFF
■ Fuel Boost Pumps	OFF, LO IF OAT HIGHER THAN 32°C
■ Throttles	21" Hg MAN.PRES. 25" Hg MAN.PRES.
■ Propellers Control	2,500 RPM
■ Elevator Trim (ave.)	+03 +00
■ Airspeed	136 KIAS 130 KIAS
■ Climb (Vertical Speed)	+1,000 FPM
■ Temperatures & Pressures	CHECK
■ Mixtures: Lean above ...	4,000 FT 52%; 7,000 FT 42% (OR MAX EGT)

CRUISE

■ Typical Altitude	9,000 FT
■ Gyro Heading	CHECK & CALIBRATE
■ Altimeter	SET OR CALIBRATE
■ Throttles	21"(Full)
■ Propellers Control	2,100 RPM 2,400 RPM
■ Mixtures	LEAN 40% OR MAXIMISE EGT
■ Elevator Trim	-01 -04
■ Cowl Flaps	CLOSE!
■ Propellers & Boot De-ice	OFF (Ineffective)
■ Cruise Airspeed	160
Max Level Airspeed	200 KIAS AT 4,000 FT
Never Exceed Airspeed	225 KIAS
Service Ceiling	20,000 FT (LEAN 19%)

Avoid prolonged Power idle!

DESCENT

■ Radios	CHECK FOR ATIS/AIRPORT INFO
■ Gyro / Heading	CHECK / CALIBRATE
■ Altimeter	SET / CALIBRATE
■ Fuel Quantity & Valves	CHECK
■ Throttles	18" Hg typically 19" Hg
■ Propellers Control	2,100 RPM 2,300 RPM
■ Mixtures	ENRICH AS NECESSARY (see CLIMB)
■ Elevator Trim	-03 -13
■ Airspeed	170 KIAS
■ Descent Rate (Vert. Speed)	-700 FPM
■ Wing Flaps (initial)	UP

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

■ Propellers Control	FEATHERED
■ Elevator Trim	+20 +17
■ Airspeed	108 KIAS 113 KIAS
■ Descent Rate (Vert. Speed)	-1,100 FPM -1,000 FPM
■ Glide Ratio	1:10 1 : 11

APPROACH @ <=50% Fuel

■ Radios	SET FOR APPROACH
■ Landing Gear	DOWN (ONLY BELOW 150 KIAS)
■ Gear Locked	TRANS RED LIGHT OFF, THREE GREEN ON
■ Autopilot	AS DESIRED
■ Landing and Taxi Lights	ON
■ Propellers Control	HIGH RPM
■ Mixtures	AS REQUIRED BY FIELD ELEVATION
■ Fuel Boost Pumps	OFF, BUT LO IF AMBIENT TEMP>32°C
■ Cowl Flaps	OPEN HALFWAY
■ Wing Flaps (intermediate)	“APR”=15° AT 140 KIAS

FINAL AND LANDING

■ Parking Brake	VERIFY OFF
■ Wing Flaps: Full Down at...	110 KIAS
■ Elevator Trim	+09 +22
■ Final Approach Airspeed	100 KIAS
■ Autopilot	OFF
■ Throttles (idle on tchdwn.)	13” Hg typically 15” Hg
■ Touchdown Airspeed	95 KIAS
<i>Stall Speed Clean</i>	<i>80 KIAS</i>
<i>Stall Speed All Down</i>	<i>72 KIAS</i>

AFTER LANDING - TAXI

■ Wing Flaps	UP AND NEUTRAL
■ Cowl Flaps	OPEN
■ Pitot Heat	OFF
■ Propellers & Boot De-ice	OFF
■ Fuel Boost Pumps	OFF
■ Strobe and Landing Lights	OFF
■ Trim Tabs	NEUTRAL

ENGINE SHUT-DOWN

■ Parking Brake	APPLY
■ Taxi Lights	OFF
■ Avionics Master	OFF
■ Throttles	IDLE
■ Propellers Control	LOW RPM
■ Mixtures	IDLE CUT-OFF
■ Starter Switch / Magnetos	OFF AFTER ENGINES STOP
■ Fuel Selectors	OFF (LEFT-L / RIGHT-R)
■ Propeller Synchrophaser	OFF
■ Beacon & Nav Lights	OFF
■ Instrument Panel Lights	OFF
■ Alternators	OFF – ALTR LIGHTS ON WHEN ENG STOP
■ Master Battery Switch	OFF

AIRCRAFT CHECKLIST**770 Maverick Trike Ultralight****AIRCRAFT BASIC SPECS**

Engines n° and type	1 Prop-Piston-Fixed
MTOW	525 lb
Fuel usable capacity	5 gl Tanks: Centre
T.off runway length	@@ ft

BEFORE STARTING

 Magnetos / Ignition	OFF
 Fuel Gauges/Quantity	CHECK
 Fuel Selector	ON
 Throttle	CRACKED (min)
 Mixture	IDLE CUTOFF
 Trim Tabs	NEUTRAL
 Flight Controls	FREE/Full travel

STARTING (CTRL+E for autostart sequence)

 Mixture	FULL RICH (or less if above 3,000 FT)
 Throttle	OPEN 1 IN. 2,000 RPM ONCE STARTED
 Starter Switch / Magneto	START

WARM UP AND TAXI

 Altimeter	CALIBRATE
 Toe Brakes	ON
 Throttle (for testing)	3,500 RPM
 Magnetos: Maximum Drops	ON EACH 125 PM, BETW. MAGN. 50 RPM
 Throttle (for warm up)	2,100 RPM
 Toe Brakes	OFF
 Taxi Throttle for steady Speed	2,600 RPM - 14 KIAS

PRE-TAKEOFF

 Throttle	IDLE
 Mixture	FULL RICH (or less if above 3,000 FT)
 Elevator Trim	+0

TAKEOFF (sea level or low altitude)

 Throttle	Full => Red mark
 Rotate (ave.)	28 KIAS
 Airspeed (airborne)	32 KIAS

CLIMB (once clear of obstacles)

■ Throttle	5,600 RPM (maximum of green arc) Above 4,000 FT this requires Full Throttle
■ Elevator Trim	-05
■ Airspeed	35 KIAS
■ Mixture	Above 1,000 FT lean for max. EGT

CRUISE

■ Typical Altitude	1,000 FT AGL
■ Throttle	4,700 RPM
■ Mixture	Lean for max. EGT
■ Elevator Trim	-06
■ Cruise Airspeed	40 KIAS
<i>Max Level Airspeed</i>	<i>50 KIAS (at 1,000 FT, Elevator Trim -14)</i>
<i>Never Exceed Airspeed</i>	<i>60 KIAS</i>
<i>Service Ceiling</i>	<i>5,000 FT</i>

DESCENT

■ Altimeter	SET / CALIBRATE
■ Fuel Quantity	CHECK
■ Throttle	Typically 4,100 RPM
■ Mixture	ENRICH AS NECESSARY
■ Elevator Trim	-05
■ Airspeed	35 KIAS

GLIDE WITH ENGINE OUT (optimal glide ratio)

■ Elevator Trim	+03
■ Airspeed	26 KIAS
■ Descent Rate (Vert. Speed)	-340 FPM
■ Glide Ratio	1 : 7.6

FINAL AND LANDING

■ Mixture	FULL RICH
■ Elevator Trim	-05
■ Final Approach Airspeed	34 KIAS
■ Throttle (idle on touchdown)	4,000 RPM
■ Touchdown Airspeed	28 KIAS
<i>Stall Speed</i>	<i>22 KIAS</i>

ENGINE SHUT-DOWN

■ Throttle	IDLE
■ Mixture	IDLE CUT-OFF
■ Magnetos	OFF AFTER ENGINE STOPS
■ Fuel Selector	CUT OFF

