

≈ 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	CHECK
	& Turn Coordinator	

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
 Fuel Boost Pump
 Gyro / Heading
 Altimeter
 Brakes
 Parking Brake
 Throttle (for testing)
 Temperatures & Pressures
 Propellers
 Generators: Volt Light
 Magnetos: Maximum Drops
 Throttle (for warm up)
 Avionics Master
 Radios
 Taxi Throttle for steady Speed
 Taxi Turns for taildraggers
 Taxi Turns: Gyro
 & Turn Coordinator

CHECK INCLUDING CHT
 CHECK OFF
CALIBRATE
CALIBRATE
CHECK (disengages parking brake!)
APPLY
1,800 RPM
 CHECK
EXERCISE (2-3 times, no more than 400RPM drop)
 OFF
ON EACH 175 PM, BETW. MAGN. 50 RPM
900 RPM
ON
SET AS PER FLIGHT PLAN
1,200 RPM - 12 KIAS
USE DIFF.BRAKES ONLY
 CHECK

PRE-TAKEOFF

Throttle
 Propeller Control
 Mixture
 Elevator Trim
 Fuel Boost Pump
 Transponder

IDLE
 HIGH RPM
 FULL RICH
 NEUTRAL (Elevator is the only trim in the Extra)
ON
ON

TAKEOFF (sea level or low altitude)

Brakes (parking or pedal)
 Throttle
 Propeller Control
 Tail Up / Nose Down (ave.)
 Rotate (ave.)
 Airspeed once airborne

RELEASE
Full => 28" Hg MAN.PRES.
 High => 2,700 RPM
50 MPH
65 KIAS (i.e. almost immediately!)
 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

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








RETRACT AND VERIFY (AT > 75 KIAS)
2,900 RPM; > 5,000 FT: 3,200 RPM
+18
 90 KIAS
 +900 FPM
3,000 FT for max. RPM 13,000 FT: 31%
18,000 FT: 22%

CRUISE

 Typical Altitude
 Gyro / Heading
 Altimeter
 Throttle
 Mixture
 Wing Flaps
 Elevator Trim
 Pitot Heat
 Cruise Airspeed
Max Level Airspeed
Never Exceed Airspeed
Service Ceiling





NORMAL | **LOW CITY**
8,000 FT | **600 FT**
CHECK / CALIBRATE
SET / CALIBRATE
21.5" Hg; 3,000 RPM | **22" Hg; 2,500 RPM**
36%, for max. RPM | **FULL RICH**
 | **SET: 15°**
+13 | **+37**
ON IF OAT < 4 °C
 95 KIAS (2 pers.+ 3/4 fuel) | **67 KIAS**
 130 KIAS
 140 KIAS
 23,000 FT (real aircraft 16,000 FT)

DESCENT

 Radios
 Gyro / Heading
 Altimeter
 Fuel Quantity
 Fuel Tank Selector
 Throttle
 Mixture
 Elevator Trim
 Wing Flaps (initial)
 Airspeed
 Descent Rate (Vert. Speed)

CHECK FOR ATIS/AIRPORT INFORMAT.
CHECK / CALIBRATE
SET / CALIBRATE
CHECK
BOTH
15" Hg; 2,200 RPM
ENRICH AS NECESSARY (see CLIMB)
+35
15° (below 100 KIAS)
 66 KIAS
 -1,200 FPM








GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

 Elevator Trim
 Airspeed
 Descent Rate (Vert. Speed)
 Glide Ratio

+55
 65 KIAS
 -1,650 FPM
 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		 SET: 10°
Cruise Airspeed (*)	+00 +03	 +32 +39
<i>Max Level Airspeed</i>	100 102 KIAS	 63 70 KIAS
<i>Never Exceed Airspeed</i>	126 130 KIAS	
<i>Service Ceiling</i>	185 165 KIAS	
<i>(*) 2 persons and full fuel load</i>	13,500 FT	

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 gl 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 Coo.

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		SET: 10°
Cruise Airspeed	+08	+30
Max Level Airspeed	120 KIAS (2 pers.+ 3/4 fuel)	96 KIAS
Never Exceed Airspeed	149-152 KIAS *	
Service Ceiling	190 KIAS *	
	15,000 FT (LEAN 30%)	












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 gl 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		SET: 10°
Cowl Flaps	+10	+25
Cruise Airspeed	CLOSE	
Max Level Airspeed	125 KIAS (2 pers.+ 3/4 fuel)	86 KIAS
Never Exceed Airspeed	143 KIAS	
Service Ceiling	182 KIAS	
	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
 Landing Gear
 Gear Light
 Autopilot
 Landing and Taxi Lights
 Propeller Control
 Mixture
 Cowl Flaps
 Wing Flaps (intermediate)






SET FOR APPROACH
DOWN
LOCKED
AS DESIRED
ON
HIGH RPM
FULL RICH
OPEN HALFWAY
20° AT 100 KIAS

FINAL AND LANDING

 Carburettor Heat
 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

ON
VERIFY OFF
90 KIAS
NEUTRAL
73 KIAS
OFF
Typically 15" Hg
62 KIAS
58 KIAS
47 KIAS

AFTER LANDING – TAXI

 Wing Flaps
 Cowl Flaps
 Landing Lights
 Carburettor Heat
 Pitot Heat
 Auxiliary Fuel Pump
 Trim Tabs
 Strobe

UP AND NEUTRAL
OPEN
OFF
OFF
OFF
OFF
NEUTRAL
OFF

ENGINE SHUT-DOWN






















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

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













AIRCRAFT CHECKL.**333 Mooney M20M/TLS Bravo'****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
 Propeller Control
 Mixture
 Elevator Trim
 Wing Flaps
 Cowl Flaps
 Fuel Boost Pump
 Pitot Heat
 Strobe and Landing Lights










IDLE
 HIGH RPM
 FULL RICH
SET TO "T/O" MARK = -10
SET TO "T/O" MARK = 10°
 CHECK OPEN
ON – GREEN ANNUNCIATOR ON
ON – GREEN ANNUNCIATOR ON
ON

TAKEOFF (sea level or low altitude)

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




RELEASE
Full => 38" Hg MAN.PRES. (red mark)
High => 2,600 RPM (red mark)
60 KIAS
70 KIAS
10-15°
RETRACT – RED LIGHT & ANNUNCIATOR
85 KIAS
OFF

CLIMB (once clear of obstacles)

 Landing Gear Latched
 Wing Flaps
 Fuel Boost Pump
 Throttle
 Propeller Control
 Elevator Trim (ave.)
 Airspeed
 Climb (Vertical Speed)
 Mixture: Lean above ...







RED LIGHT & GEAR-UNSAFE ANNUNC. OFF
RETRACT AND VERIFY
OFF – GREEN ANNUNCIATOR OFF
33” Hg MAN.PRES.; ABOVE 5,000 FT: FULL
2,400 RPM
+16
 110 KIAS
 +700 FPM
4,000 FT







CRUISE @ 50% Fuel Load

 Typical Altitude
 Gyro / Heading
 Altimeter
 Throttle
 Propeller Control
 Mixture (Lean for max. TIT)
 Elevator Trim
 Cowl Flaps
 Propeller De-Ice
 Cruise Airspeed
Max Level Airspeed
Never Exceed Airspeed
Service Ceiling

LOW | **HIGH**
10,000 FT | **20,000 FT**
CHECK / CALIBRATE
CALIBRATE | **ABOVE FL180 SET TO 29.92"**
33” Hg MAN.PRES.
2,250 RPM
36% | **20%**
-03 | **-05**
CLOSE (UNLESS NEEDED)
OFF – BLUE ANNUNCIATOR OFF
152 KIAS | **144 KIAS** (2 persons)
173 KIAS | **155 KIAS**
 195 KIAS
 25,000 FT (LEAN 17%)





DESCENT

 Radios
 Gyro / Heading
 Altimeter
 Fuel Quantity
 Fuel Selector
 Throttle

 Propeller Control
 Mixture
 Elevator Trim
 Airspeed
 Descent Rate (Vert. Speed)
 Wing Flaps

CHECK FOR ATIS/AIRPORT INFORMAT.
CHECK / CALIBRATE
SET / CALIBRATE
CHECK
ON FULLEST TANK
Typically 20” Hg Don’t idle. Keep CHT in green.
If you need to slow down use Speed Brakes.
2,000 RPM
ENRICH as needed for Max. TIT
-02
 138 KIAS
 -700 FPM
 UP

GLIDE WITH ALL ENGINES OUT (optimal glide ratio)

 Propeller Control
 Elevator Trim
 Airspeed
 Descent Rate (Glide Ratio)

FEATHERED
+12
 110 KIAS
 -1,000 FPM (1 : 11)

APPROACH

- Radios
- Landing Gear
- Gear Lock / Lights
- Autopilot
- Landing and Taxi Lights
- Propeller Control
- Mixture
- Fuel Boost Pump
- Cowl Flaps
- Speed Brakes (spoilers)
- Wing Flaps

SET FOR APPROACH

DOWN

LOCKED

AS DESIRED

ON

HIGH RPM

FULL RICH

ON – GREEN ANNUNCIATOR ON

OPEN HALFWAY

AS NEEDED TO AVOID THROTTLE IDLE

SET TO "T/O"=10° AT 110 KIAS

FINAL AND LANDING

- Parking Brake
- Wing Flaps: Full Down at ...
- Final Approach Airspeed
- Autopilot
- Throttle (idle only on tchdn.)
- Speed Brakes (spoilers)
- Touchdown Airspeed

Stall Speed Clean

Stall Speed All Down

VERIFY OFF

95 KIAS

85 KIAS

OFF

Typically 20" Hg (don't idle! Use Speed Brakes!)

AS NEEDED TO AVOID THROTTLE IDLE

75 KIAS

66 KIAS

59 KIAS

AFTER LANDING - TAXI

- Speed Brakes (spoilers)
- Wing Flaps
- Cowl Flaps
- Pitot Heat
- Propeller De-Ice
- Fuel Boost Pumps
- Trim Tabs
- Strobe and Landing Lights

OFF – LIGHT AND ANNUNCIATOR OFF

UP AND NEUTRAL

OPEN

OFF – GREEN ANNUNCIATOR OFF

OFF – BLUE ANNUNCIATOR OFF

OFF – GREEN ANNUNCIATOR OFF

NEUTRAL

OFF

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

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

APPLY

OFF

OFF

IDLE

LOW RPM

IDLE CUT-OFF

OFF AFTER ENG. STOPS – VAC & VOLTS ANNUNC.

LEFT (to prevent crossfeed)

OFF

OFF

OFF

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	
 Fuel Selector	FULLEST TANK	ICE WARNING – De-Ice is automatic
 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
 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)
 +15
 SET TO 10° (20° for short rwy)
 CHECK OPEN
 OFF
 ON
 ON
 ON – ALL LIGHT SWITCHES ON

TAKEOFF (sea level or low altitude)

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

RELEASE (land)
 Full => 27" + Hg MAN. PRES.
 HIGH => 2,850 RPM
 55 KIAS
 60 KIAS / 65 KIAS
 10-15°
RETRACT (land)
 ≥ 70 KIAS
 OFF

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

Landing Gear (w/posit.climb)

Wing Flaps

Throttle

Propeller Control

Elevator Trim (ave.)

Airspeed

Climb (Vertical Speed)

Mixture: Lean above ...

VERIFY UP - LATCHED**RETRACT AND VERIFY (AT > 75 KIAS)****23" Hg MAN.PRES.; ABOVE 6,000 FT: FULL****2,500 RPM****+08**

95-100 KIAS

+700 FPM

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

| +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
-  All Switches
-  Master Switch
-  Instrument Panel Lights
-  Landing Gear
-  Water Rudders
-  ADI
-  Nav Lights
-  Carburettor Heat
-  Fuel Gauges/Quantity
-  Throttle
-  Mixture
-  Trim Tabs
-  Cowl Flaps
-  Engine enclosure

SET (land) – apply only if aircraft fully stopped!

OFF (Master, Avionics and Lower Row)

ON, Fuel Pressure Lamp

AS REQUIRED

GEAR DOWN (land) | GEAR UP (water)

UP (land) | DOWN (water)

UNCAGED (cage only during turns)

AS REQUIRED

COLD (off)

CHECK

CRACKED (min)







IDLE CUTOFF

NEUTRAL

OPEN (vertical handle; no visible external part)

ON (use speedbrake control)

STARTING (CTRL+E for autostart sequence)

-  Fuel Selector
-  Propeller Control
-  Mixture
-  Energise, Engage, Fuel Cutoff
-  Fuel Pump
-  Fuel Pressure gauges

FULLEST TANK

HIGH RPM (full forward)

FULL RICH (or less if above 2,000 FT)

ON

ON

Lamp OFF; Gauge **green** (othw. check hidden fuel valve)

1/4" (1/8th) OPEN

BOTH

START, release when engine starts

≥50lb in <30 sec.

MID RPM











CHECK ≥ 40°C

1,000 RPM ≈ 1/4th

CHECK between 3.8 and 4.8

CHECK > 22 V

CHECK ≥ 0 A

-  Throttle
-  Magnetos
-  Starter Clutch switch
-  Oil Pressure
-  Propeller Control
-  Oil Temperature
-  Throttle (for warm up)
-  Suction
-  Volts
-  Amperes

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.

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

SWITCH TANK, CHECK, BACK FULLEST CHECK

CALIBRATE

CALIBRATE

CHECK

CHECK (land): disengages parking brake

APPLIED (land)

$\geq 40^\circ$

1,600 RPM \Rightarrow 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

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

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

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

7,000 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






ECON.**LOW (amph.)**

1,000 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













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

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)

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 $\leq 400\text{RPM}$), **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. $> 24^{\circ}\text{C}$
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
 $> 90\text{ KIAS}$

SHORT FIELD










55 KIAS
60 KIAS *

$> 80\text{ KIAS}$











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	CHECK FOR ATIS/AIRPORT INFO
 Gyro Heading	CHECK / CALIBRATE
 Altimeter	SET / CALIBRATE
 Fuel Quantity & Selectors	CHECK AND X-FEED IF NEEDED
 Throttles	20" Hg typically
 Propellers Control	2,000 RPM
 Mixtures	ENRICH AS NECESSARY (see CLIMB)
 Elevator Trim	NEUTRAL
 Wing Flaps	UP
 Airspeed	140 KIAS
 Descent Rate (Vert. Speed)	-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
 Propeller Synchrophaser
 Fuel Selectors
 Temperatures & Pressures
 Fuel Boost Pumps
 Gyro / Heading
 Altimeter
 Flight Instruments
 Brakes
 Parking Brake
 Throttles (for testing)
 Propellers
 Alter.: Load/Volts/Annunc.
 Magnetos: Maximum Drops
 Throttles (for warm up)
 Propellers & Boot De-ice
 Avionics Master & Radios
 DME & HSI
 Autopilot
 Temperatures & Pressures
 Wing Flaps
 Taxi Lights
 Taxi Throttle f.steady Speed
 Taxi Turns: Gyro+Turn Coo

ALL
 ON
 SWITCH TANKS+CHECK
 CHECK INCLUDING CHT & EGT
 OFF, BUT LO IF AMBIENT TEMP>32°C
 CALIBRATE
 CALIBRATE
 CHECK
 CHECK (disengages parking brake!)
 APPLY
 1,700 RPM
 EXERCISE (2-3 times, no more than 400RPM drop)
 CHECK
 ON EACH 150 PM, BETW. MAGN. 50 RPM
 900 RPM ≈ IDLE
 AS REQUIRED (Ineffective)
 ON & SET
 ON & Click on HSI for a realistic large one
 SET AND OFF
 CHECK; OIL TEMP. > 24° C
 UP, FULL DOWN, VISUAL CHECK, UP
 ON
 1,350 RPM – 15 KIAS
 CHECK

PRE-TAKEOFF

Throttle
 Propellers Control
 Mixtures
 Trim Tabs
 Wing Flaps
 Cowl Flaps
 Pitot Heat
 Strobe and Landing Lights












IDLE
 HIGH RPM
 AS REQUIRED BY FIELD ELEVATION
 NEUTRAL
 UP
 OPEN OPEN
 ON
 ON

TAKEOFF (sea level or low altitude)











Parking Brake
 Throttles
 Propellers Control
 Parking Brake
 Decision (V1)
 Rotate (ave.)
 Attitude Angle
 Landing Gear (w/pos.climb)
 Airspeed (airborne gear up)

HOLD ON
 Smoothly to Full => 28" Hg MAN.PRES.
 High => 2,700 RPM
 RELEASE
 70 KIAS
 85 KIAS
 10°
 RETRACT – TRANS RED LIGHT ON
 > 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
<i>Max Level Airspeed</i>	200 KIAS AT 4,000 FT
<i>Never Exceed Airspeed</i>	225 KIAS
<i>Service Ceiling</i>	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

