



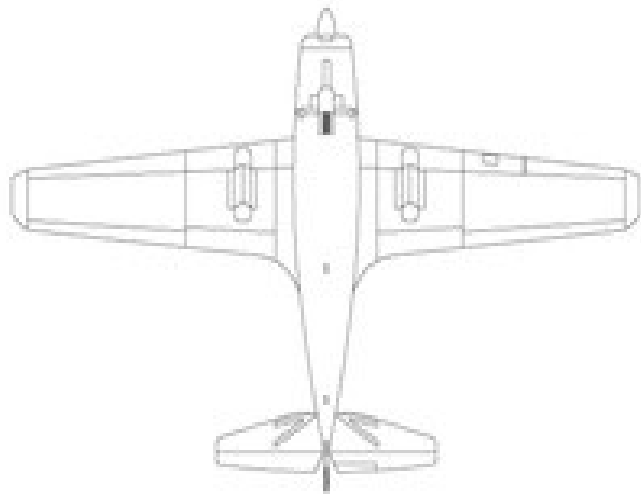
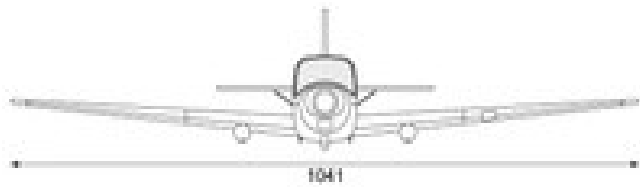
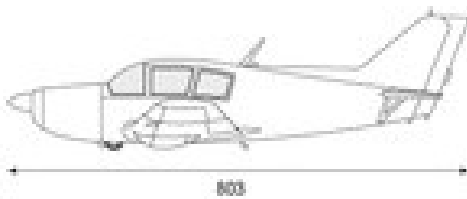
Artisan Simulation **Super Viking**

Pilot Operating Handbook and Airplane Operating Manual



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Thank you for purchasing the Super Viking! Artisan Simulation is proud to offer this aircraft as our first payware offering. Our goal is to provide high quality and affordable aircraft add-ons which you can enjoy as a stand-alone aircraft or supplemented by additional offerings from the X-Plane flight sim community. As a result, you can outfit your Super Viking in any panel configuration you desire.

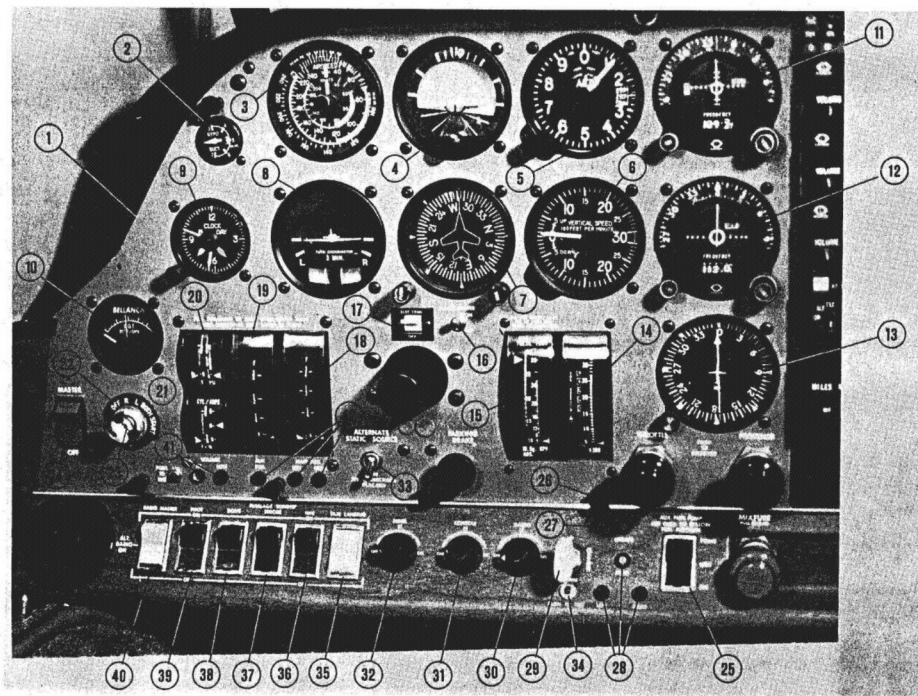
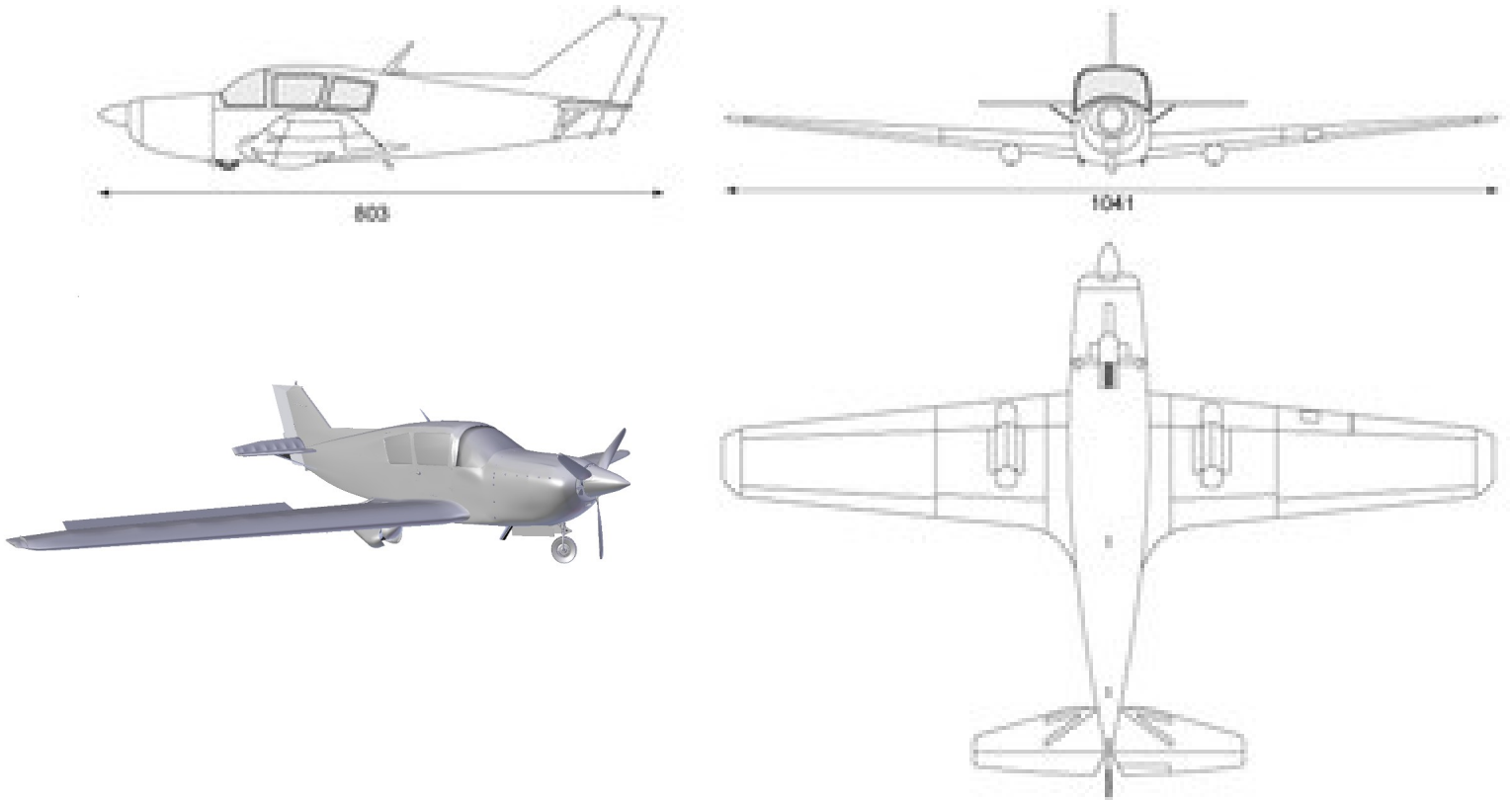


FIGURE 31. INSTRUMENT PANEL - GENERAL ARRANGEMENT

BELLANCA
Illustrated Parts Catalog

An image from a Super Viking parts catalog used to assure accuracy in modeling systems and layouts.

1.GENERAL



DESCRIPTIVE DATA

Fuel

Minimum Fuel Grade	.	.	.	.	Avitation 100/130 Grade (Green)
Total Capacity	.	.	.	.	68 U.S. Gallons
Usable	.	.	.	.	60 U.S. Gallons

Oil

Oil Specification	.	.	.	.	Continental MHS-24 - 12 Qt
Above 60 Fahrenheit	.	.	.	.	SAE 50
30 to 90	.	.	.	.	SAE 40
0 to 70	.	.	.	.	SAE 30
Below 10	.	.	.	.	SAE 20

2. LIMITATIONS

Airspeed Limitations

Vne	Never Exceed Speed	196 KIAS	Do not exceed this limitation.
Vno	Max. Structural Cruising Speed	165 KIAS	Only exceed in smooth air and only with caution.
Vx	Best Angle of Climb	65 KIAS	
Vy	Best Rate of Climb	96 KIAS	
Va	Maneuvering Speed:	129 KIAS	Do not make full or abrupt control movement above this speed.
Vfe	Max. Flap Extended Speed	104 KIAS	Do not exceed with flaps in full down position.
Vle	Max. Landing Gear Extended	139 KIAS	Max. speed which aircraft can be flown with landing gear extended.
Vlo (Ext)	Max. Speed for Gear Extension.	139 KIAS	
Vs1	Stall, Clean	66 KIAS	
VS0	Stall, Landing Config.	57 KIAS	

Power Plant Limitations

Engine Operating Limits:

Max. Continuous Power	285 BHP
Max. Continuous RPM	2700 RPM
Transient RPM Limit	2850 RPM - 5 Minutes
Max. Cylinder Head Temp.	460 deg. F
Max. Oil Temperature	240 deg. F
Max. Oil Temp - Takeoff	75 deg. F
Recm'ded Cruising Temp.	170 – 200 deg. F
Oil Pressure Normal Operating	30 – 60 PSI
Minimum Oil Pressure (IDLE ONLY)	10 PSI

Accessories

Magneto (2).	.	.	.	.	.	.	Slick Electro Model 662
Spark Plugs .	.	.	.	.	.	.	A.C. Spark Plug Model 273
Generator .	.	.	.	.	.	.	12 volts 50 amps
Alternator .	.	.	.	.	.	.	12 volts 70 amps
Starter .	.	.	.	.	.	.	12 volts

Kinds of Operating Limits

OPERATIONS IN KNOWN ICING CONDITIONS ARE PROHIBITED

3. EMERGENCY PROCEDURES

Condition

ENGINE FAILURE AFTER TAKEOFF

If sufficient runway remains:

1. Throttle - CLOSED
2. Use Maximum Braking

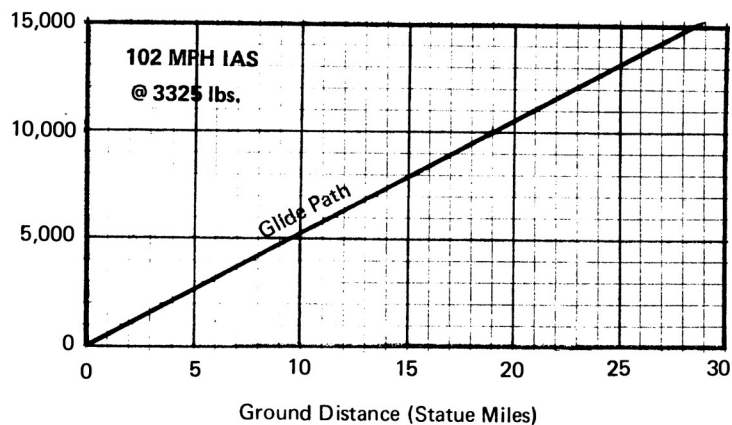
If airborne and insufficient runway remains:

1. Fuel Selector to OTHER TANK
2. Aux. Fuel Pump – PRIME to regain pressure
3. Mixture – FULL RICH
4. Magnetos – CHECK BOTH

If no restart possible:

5. Select most favorable landing area ahead.
6. GEAR DOWN
7. FLAPS DOWN

MAXIMUM GLIDE (Power Off)



NOTE

1. Airspeed – 102 MPH @3325 lbs. Reduce 1 MPH/100 lbs. less than 3325 lbs.
2. Gear and Flaps – UP
3. Throttle – FULL OPEN to prevent gear from extending
4. Propeller – FULL DECREASE RPM
5. Mixture– IDLE CUT-OFF

4. NORMAL OPERATING PROCEDURES

Before Starting Check List

1. Weight and Balance – CHECKED
2. Control Movement – NO BINDING OR NOISES
4. Mags – CONFIRM OFF
5. All Electrical Switches – OFF
6. All Radios – OFF
7. Intercom – OFF
8. Gear Selector – DOWN & LOCKED UNDER HOOK
9. Master Switch – ON
10. Fuel Gauges – VERIFY QUANTITY IN TANKS
11. Master Switch – OFF
12. Mags – OFF
13. Electrical Equipment – OFF
14. Autopilot – OFF
15. Radios – OFF
16. Circuit Breakers – CHECK IN
17. Fuel Selector Valve – FULLEST MAIN TANK
18. Gear Lever – DOWN & UNDER LOCKED HOOK
19. Flap Lever – UP
20. Brakes – CHECK FIRM
21. Brakes – SET

Engine Start

1. Mags – BOTH
2. Throttle – FULL OPEN
3. Prop – FULL RPM (FORWARD)
4. Mixture – FULL RICH
5. Master Switch – ON
6. Aux Fuel Pump – ON; STABLE FUEL FLOW; OFF
7. Throttle – MIN
8. Throttle – OPEN 1½ TURNS
9. Prop – CLEAR
10. Starter – ENGAGE
11. Oil Pressure – VERIFY RISING
12. Throttle – 1000 - 1200 RPM
13. Mixture – LEAN TO PREVENT FOULING

Before Taxi

1. Beacon, Landing Light – ON AS NEEDED
2. Clock – WIND & SET
3. Radios – ON, CHECK (tune VOR, ILS), & SET
4. Radios – VERIFY ELT OFF @ 121.5
5. Transponder – STBY
6. Transponder Panel Switch – ON
7. Intercom – ON
8. Wind – SET HEADING BUG
9. Heading Indicator – SET
10. Altimeter – SET & VERIFY +/- 75 FT OF FIELD ELEV
11. Compass – VERIFY HEADING
12. Airspeed and VSI – VERIFY ZERO

Taxi

1. Taxi Area – CLEAR
2. Brakes – OFF (TAP TO RELEASE)
3. Prop—FULL FORWARD (High RPM).
4. Throttle – APPLY SLOWLY (USE VERNIER)
5. Brakes – CHECK
6. Steering – VERIFY NOSE WHEEL TURNING
7. Instruments – VERIFY WORKING (Heading Indicator, Turn Coordinator, Attitude Indicator - 5° max indication in taxi turns)

Run-Up

1. Parking Brake – SET
2. Propeller – FULL FORWARD
3. Fuel Selector – FULLEST MAIN TANK
4. Mixture – ENRICHEN ONLY AS NEEDED FOR SMOOTH OPERATION
5. Throttle – 1800 RPM:
 - a. Mags – 175 RPM MAX DROP; 50 RPM MAX DIFFERENTIAL
 - b. Propeller – CYCLE (500 RPM MAX DROP) [Repeat 3 times in Cold Weather]
 - c. Fuel Selector – VERIFY FLOW FROM EACH TANK
 - d. Vacuum – 4.8" Hg. To 5.2" Hg.
 - e. Oil Pressure – IN GREEN RANGE
 - f. Oil Temperature – IN GREEN RANGE
 - g. Ammeter – CHARGING 1 TO 5 AMPS
 - h. Ammeter – VERIFY SAME CHARGE WITH LANDING LIGHT & PITOT HEAT
6. Throttle – RETARD to 1000 RPM

7. Mixture – LEAN
8. Controls – FREE & PROPER MOVEMENT
9. Flaps – CYCLE

Before Takeoff

1. Trim Tab – ONE NOTCH AFT WITH LOAD IN FRONT NEUTRAL WITH LOAD IN REAR
2. Beacon, Nav, Landing Lights – ON AS NEEDED
3. Autopilot – OFF
4. Turn Coordinator – NO FLAG
5. Airspeed and VSI – VERIFY ZERO
6. Altimeter – COMPARE TO TDZE (max 75 ft error)
7. Heading Indicator – SET; NO DRIFT DURING TAXI
8. Engine Gauges – VERIFY NORMAL
9. Fuel Selector – FULLEST MAIN TANK
10. Flaps – SET (Up for Normal Take Off)
11. Seatbelts – FASTENED & ADJUSTED
12. Door – LATCHED & SECURE
13. Pilot Vent Window – CLOSED
14. Beacon/Strobe – ON
15. Pitot Heat – ON AS NEEDED
16. Prop – FULL RPM (FORWARD)
17. Mixture – FULL RICH

Takeoff

1. Heading Indicator – VERIFY RUNWAY HEADING
2. Throttle – FULL OPEN (apply slowly)
3. Engine Gauges – VERIFY NORMAL
4. Airspeed – VERIFY WORKING
5. Rotate – 80 MPH (70 KTS)
6. Gear Up – CLEAR OF RUNWAY; RED LIGHT ON
7. Power/Prop – 25/25 AT SAFE ALTITUDE & 110 MPH (96 KTS)
8. Landing & Taxi Lights – OFF

Climb

1. Power & Prop – 25/25
2. Mixture – FULL RICH > 75% POWER
3. Airspeed:
120 – 130 MPH (104 – 113 KTS) < 10,000 FT
110 – 120 MPH (96 – 104 KTS) > 10,000 FT
4. Engine Instruments – VERIFY IN GREEN ARC

Cruise

1. Level Off – TRIM
2. Fuel Selector – AUX TANK
3. Throttle & Prop – SET FOR DESIRED POWER
4. Mixture – LEAN 50 RICH OF PEAK
5. Engine Instruments – VERIFY IN GREEN ARC

Descent

1. Mixture – STAY RICH OF PEAK
2. Throttle – MAINTAIN CHT AND OIL TEMP IN GREEN
3. Fuel Selector – FULLEST MAIN TANK

Approach for Landing

1. GUMPS Check
2. Fuel Selector – FULLEST MAIN TANK
3. Mixture – RICH
4. Seats and Seat Belts – ADJUST & LOCKED
5. Landing & Taxi Lights – ON
6. Marker Beacon – TEST and SPKR or HEADPHONE
7. Brakes – TEST FIRMNESS
8. Power – 18 in for 120 MPH (104 KTS)

Landing

1. Autopilot – OFF
2. Downwind
 - a. GUMPS Check
 - b. Gear – PUSH DOWN & RELEASE (140 MPH (122 KTS) MAX)
 - c. Gear – VERIFY 3 GREENS
 - d. Gear – PUSH DOWN ADDITIONAL 3 SECONDS AND RELEASE UNDER HOOK
 - e. Prop – 2400 RPM Min
 - f. Airspeed – 120 MPH (104 KTS)

3. Base

- a. GUMPS Check
- b. Gear – VERIFY 3 GREENS
- c. Airspeed – 120 MPH (104 KTS)

4. Final

- a. GUMPS Check
- b. Gear – VERIFY 3 GREENS
- c. Flaps – FULL
- d. Airspeed – 100 MPH (87 KTS)

5. Touchdown

- a. Throttle – CLOSED
- b. Attitude – NOSE HIGH; MAIN GEAR FIRST
- c. Braking – MINIMUM REQUIRED

Notice: The Super Viking is intended for recreational simulation use and is not intended or approved for and real world training or flight analysis.

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