



BELLANCA SUPER VIKING
SV 17-30A
OWNERS MANUAL



BY LIONHEART CREATIONS LTD.

OWNER'S MANUAL SUPER VIKING



BELLANCA

Aircraft Corporation
Alexandria, Minnesota



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HISTORY AND DESIGN OF THE SUPER VIKING

The Bellanca Company was purchased by a firm called Downer. Downer wished to produce a tricycle version of their Cruiseair, the model 14. This plane was later updated to a new fuselage style called the model 17 which featured a large, very raked rudder that would replace the famous tripple rudder system of the older model Bellanca's. The large rudder was to keep the plane from spinning.

The name of the Viking was chosen because of the high number of people in the Minnesota area being of Scandinavian descent.



The prototype of the Viking first flew in 1967 and was called the 14-30 as well as the Super Viking 300A. The 'A' seemed to carry along with it through updates in the design through the years, as well as a 'TC' tag for the 'Turbo Charged' model.

The Viking sported a powerful 300 HP Continental engine, the model IO-520 was the first version engine, and later the IO-540 became the constant standard powerplant of the Viking series.

The fuselage of the Viking consisted of a welded steel structure covered with classic aircraft fabric, and the wings were wood skinned / covered which was famous for Bellanca aircraft. This gave the wings a very smooth finish with no rivets or various ribbing edges protruding into the air flow. This gave the Viking a superb, slippery shape.

HISTORY AND DESIGN OF THE SUPER VIKING

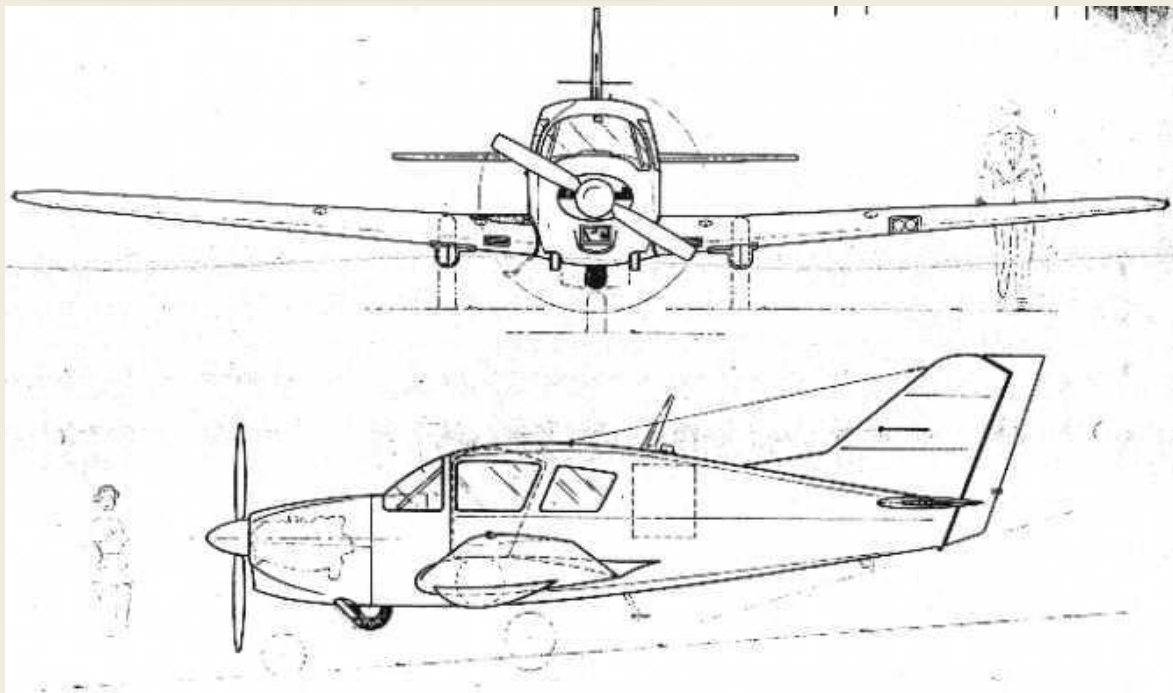
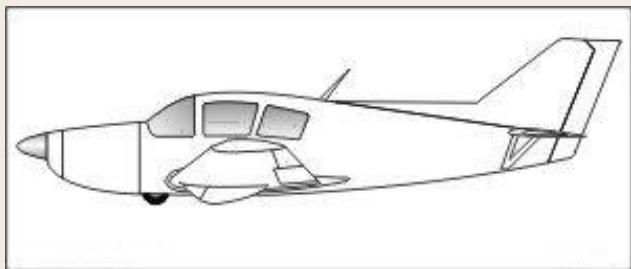
The original Viking didnt have covers over the landing gear when they were retracted. It wasnt until later that 'pods' were designed for the main gear, which opened up clam-shell-style. The nose gear continued to hang out of the bottom of the nose area until later it recieved updates and fully retracted, and then also featured doors to cover the nose gear entirely when it was raised. This increased the speed 12 knots! A high amount of speed gain for two small doors.

Through the years, the name of the Viking became Super Viking, as the plane became famous for being a high performance plane in its category. The 300A was able to cruise along at a massive 186 MPH at 75% throttle. The plane was good up to 226 MPH. This was its red-line on indicated speed. You could surpass that at higher altitude in thin air, so long as 'indicated airspeed' was under 226 MPH.

The Super Viking continued to be manufactured until 2005, with a total of 1356 aircraft produced. Quite a large number of planes. A successful line of very high performance planes for that time in aviation history.



TECHNICAL FEATURES



BELLANCA '300

[illegible][illegible]

SUPER VIKING SIM FEATURES

- Extreme detail throughout.
- High Detail Textures up to 4K Resolution with beautiful texture work throughout the package.
- 8 Paint Schemes and 4 Interior Themes.
- Cruises at 186 MPH
- High Resolution Mesh work with high detail parts.
- Some paint schemes are less reflective than others, each tuned to its own theme.
- The Prepar3D Soundpack uses the Carenado Commander 114 sound system.
- The FSX Soundpack uses the stock Mooney Acclaim sound system.
- Custom clicks and sounds throughout the plane.
- Custom ATC sound background with 2 versions to choose from.
- Extremely high detail, high precision Century III autopilot system.
- Comes with a 2d panel
- Features various popup systems of the instrumentation groups.
- Interiors include leather and cloth variants with some featuring the 1970's colors, such as lime green.
- Custom all white paint kit textures are included for the exterior.
- 2 Popup Placard information plates.
- Popup Autopilot Guidance Knob tutorial plate.
- Custom gear animation showing how the Viking raises and lowers one gear at a time.
- Bootup screens in the GPS screen systems.
- Vent window functionality
- Live ATC Taped background chatter, 2 versions, available.
- 2D Instrument panel for old world sim pilots
- Opening Cargo Door via Shift-E-2 key



AN ORIGINAL MAGAZINE ADVERTISEMENT FOR AN EARLY
BELLANCA SUPER VIKING 300.



ENCORE FOR '68 - - SUPER VIKING 300!

During 1967 the VIKING 300 was an outstanding success. It won the "Plane of the Year" award. Over 100 have been delivered to happy new owners.

Now a new star is gaining popularity. It's the SUPER VIKING 300. We've removed the fuselage aux tank and put all the fuel in the wings (72 gallons). The back seat has been widened and moved up 2 1/2 inches. Front seat has more travel too. Even over six footers have relaxing leg room in the rear seat.

New "High O-Speed" engine mounts make the VIKING series even more quiet than before. Power is the same dependable and economical fuel injected Continental 300 h.p. engine.

As with all model BELLANCAS the interiors are nation's finest. No other plane offers finer fabrics or styling.

Flight characteristics remain typically BELLANCA. Smooth, light responsive controls. Rock steady stability. Extremely rugged construction. There's never been an in-flight structural failure. Economical operation! High cruise speed! Slow landing speed!

If you've not flown a VIKING make it done today. You'll have the surprise of your life the first time you fly one.

GUARANTEED 500 HOURS OR 24 MONTHS - LONGEST IN INDUSTRY

CONTACT YOUR DEALER

BELLANCA SALES CO.

Box 775, Plainview, Texas 79072

AC 806 CA 4 4337

SMART PILOTS CHOOSE THE SMART ONE - BELLANCA

Dealer inquiries invited





SPECIFICATIONS

Specifications (1976 17-30A Super Viking 300A)
Data from Jane's All the World's Aircraft 1976-77[3]

General characteristics

Crew: 1

Capacity: 3 passengers

Length: 26 ft 4 in (8.03 m)

Wingspan: 34 ft 2 in (10.41 m)

Height: 7 ft 4 in (2.24 m)

Wing area: 161.5 sq ft (15.00 m²)

Airfoil: Bellanca B

Empty weight: 2,217 lb (1,006 kg)

Max takeoff weight: 3,325 lb (1,508 kg)

Fuel capacity: 75 US gal usable fuel with auxiliary tank;

LH 30 gal, RH 30 gal, AUX 15 gal

Powerplant: 1 × Continental IO-520-K air-cooled flat-six engine,
300 hp (220 kW)

Propellers: 3-bladed McCauley constant-speed propeller, 6 ft 8 in
(2.03 m) diameter

Performance

Cruise speed: 188 mph (303 km/h, 163 kn) (TAS, 75% power, max.
cruise)

Stall speed: 66 mph (110 km/h, 61 kn) (wheels and flaps down,
CAS)

Never exceed speed: 226 mph (364 km/h, 196 kn) (IAS)

Range: 923 mi (1,485 km, 802 nmi) (max. fuel)

Service ceiling: 17,000 ft (5,200 m)

Rate of climb: 1,170 ft/min (5.9 m/s)

Takeoff run to 50 ft (15 m): 1,420 ft (433 m)

Landing run from 50 ft (15 m): 1,340 ft (408 m)

EXTERIOR FEATURES LIST

The exterior I created personally off of photos of actual Vikings. I attempted to put as much detail as possible into this plane, as much as I could fit into a sim model. Even screws are model structures in it. I have cowling screws, screws all over the doors and wing root fairing. Screws EVERYWHERE... I have modeled the landing gear to have its own realistic Super Viking 'sequence' animation where one gear moves at a time. Even the little drain tubes on the belly and wing fuel vent tubes. The fuel doors which are Bellanca famous, a pair shape little door, even with hinge bits. The twin shark fin like large antennae on the top, the clam shell fiberglass doors complete with fiberglass texture inside. The prop blades are animated for feathering, the cargo door opens, even the little vent window opens. The rear elevator trim panel, which is quite large, features animation as well as a thrust rod that controls it. There are ribbing waves in the top of the fuselage from the internal steel tubing structure. Same for the elevators and rudder, having ribbing shapes in those as well.

The paint schemes vary from plane to plane. Some look more aged, some more newer or nicer cared for having a better reflection setting than the duller versions. Grime, scratches and fuel stains are around the fuel caps. Exhaust and grime under the belly. A scratch here and there on the airframe. They look lived in. Some have quite a bit of scuffs on the interiors, some lint and bits in the carpet, etc.

There are 8 exterior plane themes (or liveries) in the package.

- Red with Black
- Red with Gold
- Blue with White
- Blue with Copper
- Blue with Gold
- Gray and Dark Gray
- Green with Dark Green
- Blue with Turquoise (N4026B; famous Brochure plane)

NOTE: To open the cargo door, use Control-Shift-E

EXTERIOR FEATURES LIST



BLUE WITH GOLD



BLUE AND TURUOISE N4026B



GRAY AND DARK GRAY



RED WITH GOLD



RED WITH BLACK



GREEN AND DARK GREEN



BLUE WITH COPPER



BLUE WITH WHITE

INTERIOR FEATURES LIST

Care was taken to create as close as possible of an exact replication of the interior of the Super Viking. There were many models, and some different panel variations. I have chosen one in the later production years (most recent) that would have been made, which was derived from much research and pouring through endless photos on the internet of Super Vikings. Components and parts of the plane that are famous for the Viking even include the fuel selector between the seats, the gold lettered large information placard on the left side of the cabin, the overhead special dome-light and panel light that had a slip-cover slot. The two speaker grilles located just above the pilots head, the cargo net behind the rear seats, the shape of the seats and their upholstery and fabrics used in both that era and what a modern 're-covering' of upholstery would look like. Great extents were made to make this as real as possible. The panel also features a six-pack of square mini gauges, like the Mooney has, which Bellanca later went to. My first model I created of the Viking had the tall slider style vertical gauges on the lower left of the panel, but the later Vikings, which I had wanted to model, featured the mini squares, so I have gone with those instead.

The plane is filled with clickable 'things' which popup and maximize all different kinds of things. The various information placards all popup. The gauges mostly all popup except or smaller non-essentials and also the Autopilot is non-popup, but you can access its zoom view via clicking 3 times on the 'A' key when in Virtual Cockpit mode. The panel and interior zoom keys are tuned nicely. I did them personally how I would want them to be and include 3 views from the back seat which include wing views and a view looking up to the front between the seats. Even the fuel selector has a zoom view, 6 clicks from main VC view. You can reverse through the views with 'Shift-A'. So to go to fuel selector view, click 'A' 6 times, make your selection, then 'Shift-A' 6 times to get back to main VC view.

INTERIOR FEATURES LIST

There are 4 different color themes or materials themes in this package of the Super Viking. There are also several panels of various colors.



LIST OF INTERIOR THEMES

- Nagahyde leather with tan cloth
- Blue on blue leather
- Blue leather with blue cloth
- Gray leather and cloth
- Green with green cloth

LIST OF INSTRUMENT PANEL COLORS

- Dark Gray (black)
- Krinkle Black (vintage)
- Tan
- Blue gray or dove gray

CONTROL YOKES

- Black
 - White
 - Black with Nagahyde leather insert.
-

INTERIOR FEATURES LIST

Gray leather and fabric interior.

Gray instrument panel



Nagahyde interior with tan cloth

Tan instrument panel



Blue interior, this one with the blue cloth inserts

Dove gray/blue panel



Wild 1970's style lime green leather and cloth interior

Khaki (greenish) tan panel



INSTRUMENT PANEL DETAILS

You'll find there to be an explosion of detail on the instrument panel. Most all switches are animated except for a couple of non FS type things. I sought to make everything as to spec as possible. The round gauges burrow deep into the panel as they should, but yet, I kept them in XML format so they can be modified, switched out with other gauges, etc, etc. They all have MouseRect capabilities in FSX because I didnt cover them with glass. (Many complaints on glass). Some flight sim pilots in Europe like to install metric instruments, and so having XML gauges enables them to change out gauges easily, whereas with 3D gauges, you cannot...



INSTRUMENT PANEL TYPES



Tan Panel



Dark Gray Panel



Greenish Khaki Panel



Lite Gray Panel



Krinkle Black



CENTURY III AUTOPILOT FLIGHT SYSTEM

PILOT'S OPERATING HANDBOOK

CENTURY III AUTOPILOT

NOVEMBER 1998
68S25

CENTURY III AUTOPILOT

THIS IS THE VERSATILE 'CENTURY III' AUTOPILOT SYSTEM.

THE SYSTEM COMPRIZES TWO MINI PANELS, ONE ROUND AND ONE RECTANGULAR.

THE ROUND SECTION / KNOB ABOVE THE RECTANGULAR BOX IS THE 'GUIDANCE MODE' SELECTOR. TURNING ON 'ROLL' AND 'HEADING' ACTIVATES 'GUIDANCE'.

'GUIDANCE' IS THE ROUND KNOB SELECTOR AND ITS SYSTEMS THAT IT MANAGES; NAV, OMNI (GPS), HDG, LOC NORM (APPROACH) AND LOC REV (BACK COURSE).



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ROLL ROCKER SWITCH MUST BE ON AND HDG ROCKER SWITCH MUST BE OFF FOR ROLL KNOB TO BE ENERGIZED.



ROLL KNOB; CENTER CLICK TO RESET/RECENTER.

NOTE: YOUR AUTOPILOT MASTER SWITCH IS THE ROLL SWITCH. WHEN ROLL IS OFF, YOUR AP IS OFF.

CENTURY III AUTOPILOT

POPUP AP INFORMATION PLACARD

THE ROUND 'GUIDANCE KNOB' REAR BACK PLATE IS CLICKABLE. WHEN YOU CLICK ON IT, A PLACARD APPEARS WITH BASIC INFORMATION ON HOW THE LAYOUT OF THE BUTTONS ARE ON THE SYSTEM TO RUN THE VARIOUS MODES OF NAVIGATION AND FLIGHT MANAGEMENT.



AUTOPILOT GUIDANCE SELECTOR KNOB

ROLL SWITCH ENGAGES THE GUIDANCE SELECTOR KNOB. IF ROLL ROCKER IS OFF, GUIDANCE KNOB IS OFF

NAV MODE	OMNI MODE	HDG MODE	LOC NORM	LOC REV	ROLL
NAV MODE FLIGHT PLANS	NAV MODE VOR NAV	HDG ACTIVE MANUAL HDG	APPROACH MODE	BACK COURSE MODE	ROLL MODE

CENTURY III AUTOPILOT SYSTEM

ADJUSTS PITCH ANGLE 'AND' ALT SETTING, DEPENDING ON WHAT MODE ITS IN; ALT OR PITCH

DN

PITCH

UP

QUICK LOCKS, NON GUIDANCE SWITCHES...

CENTURY III AUTOPILOT

ROCKER SWITCHES INFORMATION

- **ROLL ROCKER SWITCH.....**

AUTOPILOT MASTER, ON/OFF FOR THE AP SYSTEM. THIS ALSO ENERGIZES THE 'ROLL KNOB' AND 'WING LEVELER MODE'. THIS IS GREAT FOR CLIMBOUT TIMES, GETTING SITUATED.

- **HDG ROCKER SWITCH.....**

THIS ENGAGES GUIDANCE KNOB AND HORIZONTAL CONTROL. THIS SYSTEM (GUIDANCE CENTER) CONTROLS THINGS SUCH AS HDG AND GPS (NAV) MODE, APPROACH, AND BACK COURSE MODES.

- **ALT ROCKER SWITCH.....**

THIS LOCKS YOUR ALTITUDE. YOU MUST BE AT THE ALTITUDE YOU WISH TO BE AT AND THEN SET THE SWITCH TO HOLD IT. WHEN ACTIVE, YOU CAN ADJUST YOUR ALT VIA THE PITCH ADJ ROCKER SWITCH. THE AIRPLANE WILL USE DEFAULT CLIMB WHEN CHANGING ALTITUDES WITH ALT LOCK ACTIVE.

- **PITCH ROCKER SWITCH.....**

THIS LOCKS YOUR CLIMB OR DESCENT RATE. WHEN ON, YOU CAN ADJUST YOUR VERTICAL SPEED RANGE VIA THE PITCH ADJUSTMENT ROCKER ON FAR RIGHT.

- **ROLL KNOB.....**

ENGAGED WHEN ROLL IS ON AND HDG IS OFF. USE THIS TO BANK / TURN THE AIRPLANE. VARIOUS STAGES OF BANK ARE AVAILABLE. WITH THIS YOU CAN CONTINUE TO TURN IN FULL CIRCLES. CENTER CLICK TO RESET BACK TO ZERO DEG BANK.

- **PITCH ADJUSTMENT ROCKER.....**

THIS CAN ADJUST PITCH CLIMBOUT, BUT WHEN IN ALT HOLD MODE, YOU CAN USE IT TO ADJUST YOUR ALTITUDE SETTING. WHEN YOU MOUSE OVER THE PITCH ADJUSTMENT ROCKER, YOUR ALT WILL SHOW AND YOU CAN ADJUST YOUR ALTITUDE ACCORDINGLY. THE SAME FOR PITCH, WHEN IN PITCH MODE, THUS ADJUSTING YOUR VERTICAL ASCENT OR DESCENT AS DESIRED.

- **TRIM SCREW.....**

INOPERATIVE, NON FUNCTIONING DETAIL.

CENTURY III AUTOPILOT

ROCKER SWITCHES INFORMATION

MASTER AP SWITCH, ROLL KNOB

ACTIVATES HORIZONTAL GUIDANCE KNOB (HDG, NAV OMNI, LOC NORM, AND LOC BAC

LOCKS ALT AT PRESENT ALTITUDE MOMENT

ADJUSTS PITCH HOLD ANGLE IN DEG
AND ALSO ALT SETTING UP/DOWN

LEFT CLICK / RIGHT CLICK



TRIM; DOES NOTHING

PITCH HOLD; HOLDS VERTICAL SPEED 'ANGLE'

ROLL KNOB; FOR DOING TURN 'HOLD' BANKING. SETS DEG.
LEFT CLICK / RIGHT CLICK / MOUSE WHEEL / CENTER CLICK

CENTURY III AUTOPILOT

GUIDANCE MODE SELECTOR KNOB



- **NAV MODE.....**

GPS NAVIGATIONAL FLIGHT MODE. USE THIS FOR FOLLOWING FLIGHT PLANS.

- **OMNI MODE.....**

VOR NAVIGATION USING NAV-1 INPUT

- **HDG MODE.....**

HEADING FOLLOWING. THIS MODE USES YOUR HSI DG HEADING BUG TO FLY TOWARDS. PERHAPS SET YOUR HEADING BEFORE SWITCHING TO THIS MODE.

- **LOC NORM.....**

APPROACH MODE SETTING WHICH INCLUDES GLIDE SLOPE CAPTURE FOR DESCENT GUIDANCE. USE 1900 FT ALT TO CAPTURE GLIDE SLOPE

- **LOC REV.....**

REVERSE COURSE MODE OR 'BACK COURSE' (BC)

GUIDANCE KNOB WILL NOT FUNCTION IF 'ROLL AND HDG' ROCKER SWITCHES ARE NOT ON.

CENTURY III AUTOPILOT

QUICK TIPS

- **CLIMBOUT / PITCH HOLD AND WING LEVELER**

FLIP ON ROLL, HDG, AND PITCH. ADJUST PITCH WITH THE PITCH ADJUSTMENT ROCKER. YOUR PLANE IS HELD IN 'LEVEL FLIGHT' BY THE HDG SYSTEM. MOUSE HOVERING OVER THE PITCH ADJUSTMENT ROCKER SHOWS YOUR DEGREES SETTING FOR PITCH HOLD.

- **AUTOPILOT 'ROLL' MODE TURNING**

THE CENTURY III HAS A UNIQUE 'ROLL' TURN FEATURE THAT ENABLES YOU TO MAKE CONSTANT TURNS 'WITH' THE AUTOPILOT. I DO NOT KNOW OF ANOTHER AP THAT DOES THIS. TO ACCESS THIS FEATURE, TURN ON ROLL AND ALT. THIS PUTS YOU IN LEVEL FLIGHT, LOCKING THE ALTITUDE. WITH HDG OFF, YOU THEN USE THE 'TURN ROLL' DIRECTION KNOB LABELED WITH LEFT AND RIGHT TO SET UP TURNS. YOUR TURNS DO NOT STOP TILL YOU CENTER THE DIAL. QUICK-CENTER IS BY MOUSE 'MIDDLE CLICK'.

- **VOR FOLLOWING**

TURN ON ROLL AND HDG, THEN SET GUIDANCE MODE SELECTOR TO OMNI. THIS WILL SET UP YOUR AP NAVIGATION TO FOLLOW THE NAV-1 SETTING.

- **GPS 'FLIGHT PLAN' MODE**

TURN ON ROLL, HDG, AND SELECT NAV MODE. THIS TURNS ON GPS MODE IN THE SYSTEM AND WILL NOW FOLLOW A FLIGHT PLAN.

- **HDG MODE**

TURN ON ROLL AND HDG SWITCHES AND THEN SELECT HDG ON THE ABOVE 'GUIDANCE SELECTOR' KNOB. MAKE SURE YOU HAVE SET UP YOUR HEADING BEFORE HAND AS YOUR PLANE WILL NOW BEGIN ITS TURN TO YOUR GYRO DG HEADING.

- **FLAT FLIGHT WITH WING LEVELER OFF, MANUAL BANKING**

FLIP ON ROLL AND ALT ROCKER SWITCHES. YOU NOW HAVE YOUR ALTITUDE LOCKED AND YOUR STEERING IS UNLOCKED, WING LEVELER IS OFF, AND YOU CAN FREELY STEER YOUR PLANE AS ALT IS KEPT CONSTANT. GREAT FOR WATCHING COUNTRYSIDES AS YOU FLY ALONG.

HIDDEN FEATURES



HIDEABLE CONTROL YOKES

A neat feature I always incorporate into my planes is the ability to hide the yoke as it can block your view in flight simulators. In reality you can merely look around them, but in the simulator, things are different. To hide them, click on the rubber base cone at the control yoke shaft, and also on the control yoke itself.



FUEL SELECTOR

The fuel selector lives between the front seats on the seats box in a wood colored structure. On it you will see your fuel amounts per tank and the selection positions for the selector knob.

When selecting tanks, its best to use 'Mouse Wheel'.



CABIN LIGHTING

- THERE ARE THREE MODES OF INTERIOR LIGHTING;
 1. INSTRUMENTS LIGHTING (GAUGES INTERNAL LIGHTING ONLY).
 2. PANEL LIGHT MODE (PANEL LIGHTS UP)
 3. CABIN DOME LIGHT WHICH ILLUMINATES THE REAR OF THE COCKPIT AS WELL AS THE FRONT SEAT AREA.



INSTRUMENTS ONLY MODE



ALL INTERNAL LIGHTS ON



GAUGE POPUPS LIST

THIS IS A LIST OF THE VARIOUS POPUPS OF THE INSTRUMENTS INTO 'ZOOM VIEW'

SHIFT/1.....2D INSTRUMENT PANEL

SHIFT/2.....GPS 500

SHIFT/3.....AVIONICS STACK INCLUDING;

- GNS430 (RADIO 1; COM1 / NAV1)
- BENDIX KING KX-155 (RADIO 2; COM2 / NAV2)
- GTX 327 TRANSPONDER

SHIFT/4.....LIGHT SWITCH PANEL

SHIFT/5.....FLIGHT INSTRUMENTS

SHIFT/6.....ENGINE INSTRUMENTS;

- SQUARE MINI 6-PACK (MOONEY STYLE)
- TACHMETER WITH BUILT IN HOBBS TIMER
- MAP / FUEL FLOW GAUGE

SHIFT/7.....CENTURY III AUTOPILOT POPUP



GAUGE POPUPS

MANY OF THE GAUGES AND 2 GPS SCREENS HAVE 'MAXIMIZE' POPUP CLICK ZONES ON THEM, RIGHT ON THE SCREENS. THE GPS SCREENS HAVE THE TOP HALF AS 'MAXIMIZE'. CLICKING ON VARIOUS INSTRUMENTS WILL CAUSE MOST ALL OF THEM TO POP-UP EXCEPT FOR SEVERAL SMALLER NON-ESSENTIAL GAUGES.



THERE ARE ALSO POPUP 3D PLACARD PLATES AROUND THE INSTRUMENT PANEL THAT ALSO POPUP IN 3D VIRTUAL. CLICK ON THE PLACARDS TO BRING THEM UP.

LEFT POPUP PLACARD

THE BELLANCA SUPER VIKING FEATURES A LARGE PLACARD ON THE LEFT SIDE OF THE CABIN UP AGAINST THE INSTRUMENT PANEL. IT FEATURES KEY DETAILS ON THE AIRCRAFT. YOU CAN CLICK ON THE PLACARD AND IT POPUPS UP INTO A FULL VIEW PLATE IN FRONT OF YOU IN THE SIMULATOR.



RIGHT POPUP PLACARD

ON THE RIGHT SIDE OF THE INSTRUMENT PANEL, OVER BY THE CONTROL YOKE, IS A SMALLER 'CHECKLIST' PLACARD. I HAVE ALSO MADE THIS CLICKABLE SO THAT YOU CAN BETTER READ THE DATA ON THE PLATE. IT ALSO POPS UP. YOU CAN CLICK ON THE PLATE THAT HAS POPPED UP TO BRING IT BACK TO ITS PARKING SPOT ON THE PANEL (SMALLER FORM).



GPS 500 SPECIAL FEATURES



THE GPS 500 FEATURES SOME ADDED FEATURES.

- NEW LARGER CLICK ZONES ON THE BOTTOM RIGHT KNOB
- TOP HALF OF THE 'SCREEN' HAS 'MAXIMIZE' CLICKABLE CLICK ZONE
- BOTTOM HALF OF 'SCREEN' HAS 'TERRAIN ON OFF CLICK ZONE
- ON OFF CLICK ZONE IS ON THE BOTTOM LEFT, PLASTIC SLIDER PART, SO THAT THE SCREEN CAN BE TURNED OFF IF DESIRED.
- SCREEN DIMMING, TOP RIGHT CORNER
- FEATURES A NEAT LITTLE TIMED BOOTUP SCREEN WHEN POWERED UP BY MASTER BATTERY AND AVIONICS SWITCHES.
- SLAVED CODE TO ENABLE VIEWS IN BOTH MINIMIZE AND MAXIMIZE VIEWS TO BE SYNCHED.
- MOUSE WHEEL OVER THE TOP RIGHT DIODE WHERE IT SAYS GPS 500 TO DIM THE SCREEN.

GNS 430 SPECIAL FEATURES



THE GNS 430 SPORTS SOME ADDED FEATURES.

- TOP HALF OF THE 'SCREEN' HAS 'MAXIMIZE' CLICKABLE CLICK ZONE
 - BOTTOM HALF OF 'SCREEN' HAS 'TERRAIN ON OFF' CLICK ZONE
 - SCREEN CAN BE TURNED OFF IF DESIRED, ON OFF SWITCH, TOP LEFT.
 - FEATURES A NEAT LITTLE TIMED BOOTUP SCREEN WHEN POWERED UP BY MASTER BATTERY AND AVIONICS SWITCHES.
 - SLAVED CODE TO ENABLE VIEWS IN BOTH MINIMIZE AND MAXIMIZE VIEWS TO BE SYNCHED.
 - SCREEN DIMMING; MOUSE WHEEL OVER THE 'C' KNOB (TOP LEFT) TO DIM THE SCREEN.
-

BELLANCA ELEVATOR TRIM

THE TRIM TAB ON THE TAIL OF THE SUPER VIKING IS QUITE LARGE COMPARED TO NORMAL PLANES. THIS IS ALSO EITHER OPTIONALLY ELECTRICALLY TRIMMED AT THE CONTROL YOKE, OR HAND CRANKED OVERHEAD ON THE CEILING MOUNTED TRIM CONTROL.



MOUSE WHEEL OVER THE YOKE TRIM SWITCH FOR TRIM



THE RED BUTTON BRINGS UP THE ATC INTERFACE PANEL

FLYING THE SUPER VIKING IN FLIGHT SIMULATOR



VIKING FLIGHT SCHOOL

BASICS

The Bellanca Super Viking is a very fast, high performance aircraft that can cruise at over 200 mph. Owners of the Super Vikings boast over the excellent handling and fast speeds of these planes. They are equipped with retractable landing gear and some featured turbocharged versions. This particular plane is not turbocharged but you could reset the config file or the turbo version. This particular aircraft pack features a two position flap system.

Some basics on speeds, weights, and fuel loads.

Takeoff distance, ground roll	980 ft
Takeoff distance over 50-ft obstacle	1,420 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	1,200 fpm
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption, ea engine)	
@ 75% power, best economy, 7,500 ft	172 kt/4.5 hr (94.2 pph/15.7 gph)
@ 65% power, best economy, 10,000 ft	165 kt/5.3 hr (81 pph/13.5 gph)
Max operating altitude	24,000 ft
Service ceiling	18,200 ft
Landing distance over 50-ft obstacle	1,340 ft
Landing distance, ground roll	835 ft

LIMITING AND RECOMMENDED AIRSPEEDS

VX (best angle of climb)	65 KIAS (75 mph)
VY (best rate of climb)	96 KIAS (110 mph)
VA (design maneuvering)	129 KIAS (148 mph)
VFE (max flap extended)	104 KIAS (120 mph)
VLE (max gear extended)	139 KIAS (160 mph)
VLO (max gear operating)	
Extend	139 KIAS (160 mph)
VNO (max structural cruising)	165 KIAS (190 mph)
VNE (never exceed)	196 KIAS (226 mph)
VS1 (stall, clean)	66 KIAS (76 mph)
VSO (stall, in landing configuration)	57 KIAS (66 mph)

Fuel capacity, w/opt tanks 75 gal / 450 lb

Weight

Empty weight	2,312 lb
Gross weight	3,325 lb
Useful load	1,013 lb
Payload w/full fuel	509 lb

Range at 75% power 800 NM

VIKING FLIGHT SCHOOL

BASICS

THE GREEN ZONE IS YOUR FLIGHT ENVELOPE OF SAFETY. THE YELLOW ZONE IS GETTING TOWARDS YOUR UPPER SPEED LIMITATION ZONE. RED LINE IS YOUR 'VNE' OR 'VELOCITY NEVER EXCEED'. YOU 'CAN' GO FASTER THEN THIS IN 'GROND SPEED' OR 'ACTUAL' SPEED, BUT NOT IN YOUR 'INDICATED SPEED' ON YOUR AIR SPEED INDICATOR (ASI).

ASI



NOTE THAT THE ASI INSTRUMENT IS IN MPH ON THE OUTER RING, AND KNOTS IS ON THE INSIDE RING. MAXIMUM AIRSPEED 'INDICATED' IS 226 MPH, AND CRUISE IS 186 MPH AT 75% POWER.



WHEN FLYING THE SUPER VIKING, YOU GO BY YOUR MANIFOLD AS YOUR POWER SETTING, INSTEAD OF RPM, AS YOUR TACH RPM IS REGISTERING YOUR PROPELLER RPM, NOT YOUR ENGINE RPM. TO REDUCE YOUR PROP RPM, YOU WOULD ADJUST YOUR PROP PITCH (BLUE KNOB) ON THE PANEL JUST BELOW THE TACH INSTRUMENT.

THE TACHO HAS A BUILT IN HOBBS ENGINE TIMER WHICH SHOWS YOUR TOTAL AMOUNT OF TIME WITH THE ENGINE RUNNING. THIS ONE DEPICTS 46.9 HOURS.

VIKING FLIGHT SCHOOL

BASICS OVERHEAD TRIM CRANK

The trim crank is located on the ceiling of the Super Viking. You can also adjust the trim at the yoke on the left thumb switch. In the Sim Pilot World (SPW) you use the Home and End keyboard keys for this.



The Bellanca Super Viking flies at a large amount of speed, but can fly also at a very slow speed. This requires a 'lot' of trim capacity, and you will be trimming as you go through speed ranges, similar to a Mooney. So be aware, you will be trimming a lot as you go through speeds.

For those that do not know, the Super Viking has a very large trim tab on the tail elevator. Larger than normal. This helps with the trimming of this sleek machine as it must fly at slow speeds in traffic patterns, as well as speeds over 200 MPH. (Just think, you could be flying faster than a Lamborghini Countach... But Countach's cannot fly..)

VIKING FLIGHT SCHOOL

BASICS; POPUP CHECKLIST PLACARD

A cool 'Check List Guide' placard is on your Viking instrument panel. Clicking on it will bring it up to your face in the virtual cockpit. This is not the same as a instrument popup, its a 3d object and a bigger versions appears in front of you to the right side. It has useful information about checklists of items that are for single engine planes with retractable gear and variable pitch propellers.



For real world pilots, you can purchase this same placard online at Spruce Aircraft and Supply's online store. So many things there. The ultimate store for aircraft parts and pilot supplies.

VIKING FLIGHT SCHOOL

TAKE-OFF

- Set flaps for one notch which is take-off position. Yellow light on the flaps control area of the instrument panel will illuminate. Yellow is number 2 position.
- Set elevator trim for take-off mode.
- Prop pitch to full
- Mixture to full rich
- Throttle to full (you have 5 minutes for full throttle, then you must pull back).
- Rotation occurs above 70 MPH, 80 MPH under heavy lift conditions, 70 when lite in payload.
- Maintain 900 to 1000 fpm climbout. With lite payload, you can easily do 1200 fpm in the Super Viking. Maintain at least 85 knots as you climb out.
- Begin raising flaps and gear when needed
- Begin trimming the aircraft for the cruise you wish.
- For automatic Autopilot assist climbouts, flip on the ROLL, HDG, and PITCH switches. Your plane will now be in climbout mode with aircraft in 'Wing Leveler' mode and Pitch will be held by the AP system. You can adjust pitch with the Pitch Adj Rocker.
- When you attain the altitdue you wish, you simply flip on the ALT rocker on the Century III Autopilot. This will switch off Pitch mode. When you do this, HDG turns on 'Guidance' which your Guidance knob will show which flight mode you are going into. To turn off Guidance, turn off the HDG rocker switch. You are now in Roll flight mode, and you will level off in level flight. You can use the Roll dial to bank your plane with.
- To turn off AP systems after attaining your desired altitude, just turn off ROLL rocker switch. ROLL is the 'master AP' switch.

VIKING FLIGHT SCHOOL

LEVEL FLIGHT CRUISE MODES

The Super Viking is a high performance aircraft that flies are a very fast rate of speed. Sometimes you do not realize how fast you are going. Its hard to fathom a single engine aircraft that cruises at 186 MPH, but here you are. 75% power is going to put you at 186 MPH per conditions and 1 to 2 souls on board. Economy cruise is 65% power.

- **FS TIP**, you can mouse hover over the throttle knob to see your power settings in percent.

Your range in the Super Viking 17-300A (late version series) is going to be 800 NM. This includes use of your AUX tank which is 15 US Gallons of useable fuel. Your wing tanks are 30 US Gallons each, 60 for both, plus AUX puts you at 75 US Gallons or 450 lbs approximately. At 800 NM at 75% constant throttle, you will probably make 840 NM which will be good for having to go around or wait for traffic in a high density airport.

- **FUEL SELECTOR**

Your Bellanca fuel selector has AUX, LH, BOTH, RH, and OFF modes, from left to right. Its between the seats mounted on the seat box you are sitting on. You can use Mouse Wheel to adjust that. The sim will default start at 'Both' setting. Actual Vikings usually use LH or RH only, but in the sim world, its starting at Both. Some Vikings before this version was made, had 2 selectors. This model has one fuel selector.

For information on using the Century III Autopilot, see the Autopilot section, in the quick tips. Here are some basics;

- LEVEL FLIGHT-GPS MODE; ROLL ON, HDG ON, ALT ON, GUIDNC=NAV
- LEVEL FLIGHT-VOR; ROLL ON, HDG ON, GUIDNC=OMNI
- LEVEL FLIGHT-HDG; ROLL ON, HDG OFF, USE ROLL KNOB
- LEVEL FLIGHT-WING LEVELER; ROLL ON, HDG OFF, PITCH ON

VIKING FLIGHT SCHOOL

LANDING

Landing is pretty much just like any other fine low wing aircraft. You will have more ground effect then a high wing before touching down, etc. But one thing for certain is, getting her slowed down. When coming into traffic, be aware of your speed. You do not want to come in too hot. Do not wait to slow down when on final.

- **SPEED DOWN:** Begin slowing down as you approach pattern, slowing to 120 MPH. Note, official maneuvering speed is 148 MPH indicated. Traffic will put you at about 120 MPH. Slow to as needed, not below MPH.
When under 140 MPH, you may drop the landing gear. I would be lower then that in a real Viking, perhaps 120 MPH.
- **FLAPS:** At 120 MPH, you may drop flaps. DO NOT DROP FLAPS 2 NOTCHES ABOVE 120 MPH.
- At 100 MPH, you should select 2 notches of flaps, on high final at max, not too close to the runway as that will destabilize your trim input. (NOTE when on approach at lower speeds, under 100 knots, the Viking will have some sensitivity to up/down inputs).
- **OVER THE FENCE:** When going over the fence, just before touch down, try to have your speed at about 85 MPH.
- **THROTTLING DOWN:** When you are ready to touch Earth, about 4 or 5 feet off the runway, cut power and very gently pull the nose back, just over the horizon. You should gently ease down and smoothly land.
- After you have slowed down, pull the flaps up, set trim to zero point, and get setup for parking.

Fun, eh? Yesss..... Flight in a Viking Ship. Exhilarating...
Imagine owning a real one! At least now you have a nice one for Flight Simulator. And with the paint kit, you can customize your own. ;)

REAL SUPER VIKINGS

REAL WORLD SUPER VIKINGS



The gentleman that owns 77 Sierra let me use his plane for one of the paint schemes. It turned out quite well.



REAL SUPER VIKINGS

REAL WORLD SUPER VIKINGS



REAL SUPER VIKINGS

REAL WORLD SUPER VIKINGS



REAL SUPER VIKINGS

REAL WORLD SUPER VIKINGS

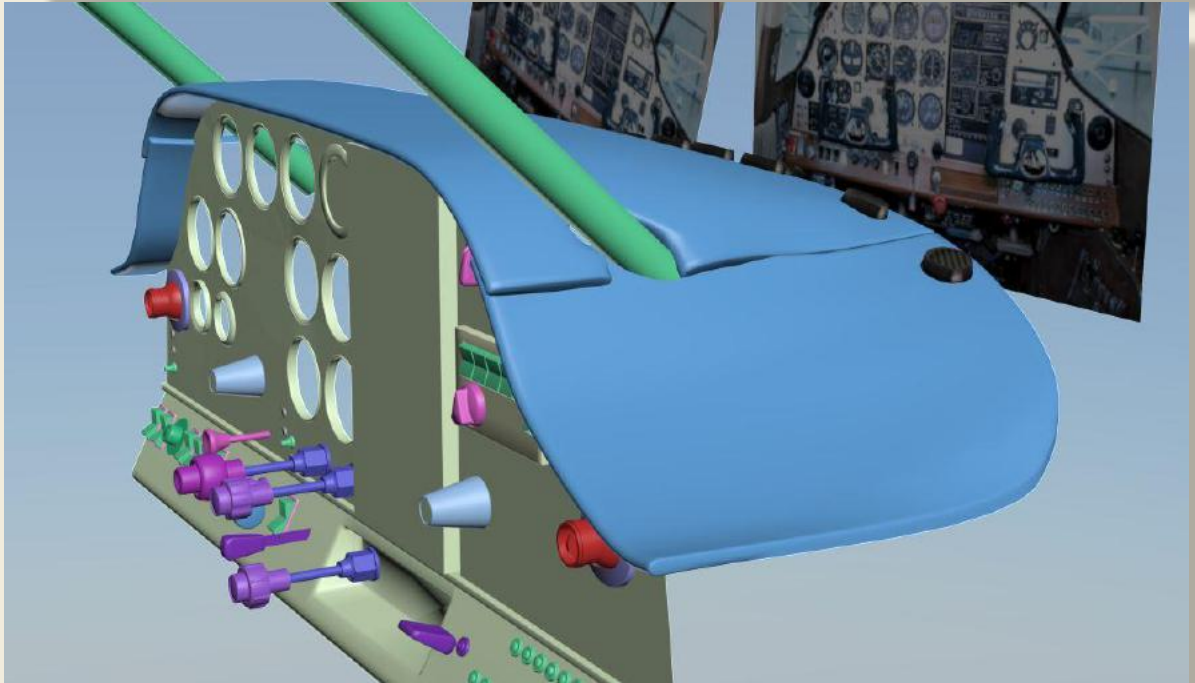


This is one of the key interior photos I used to make the interior from on the model. Even the colors of panel, carpet, and fabric on the sides of the cabin.



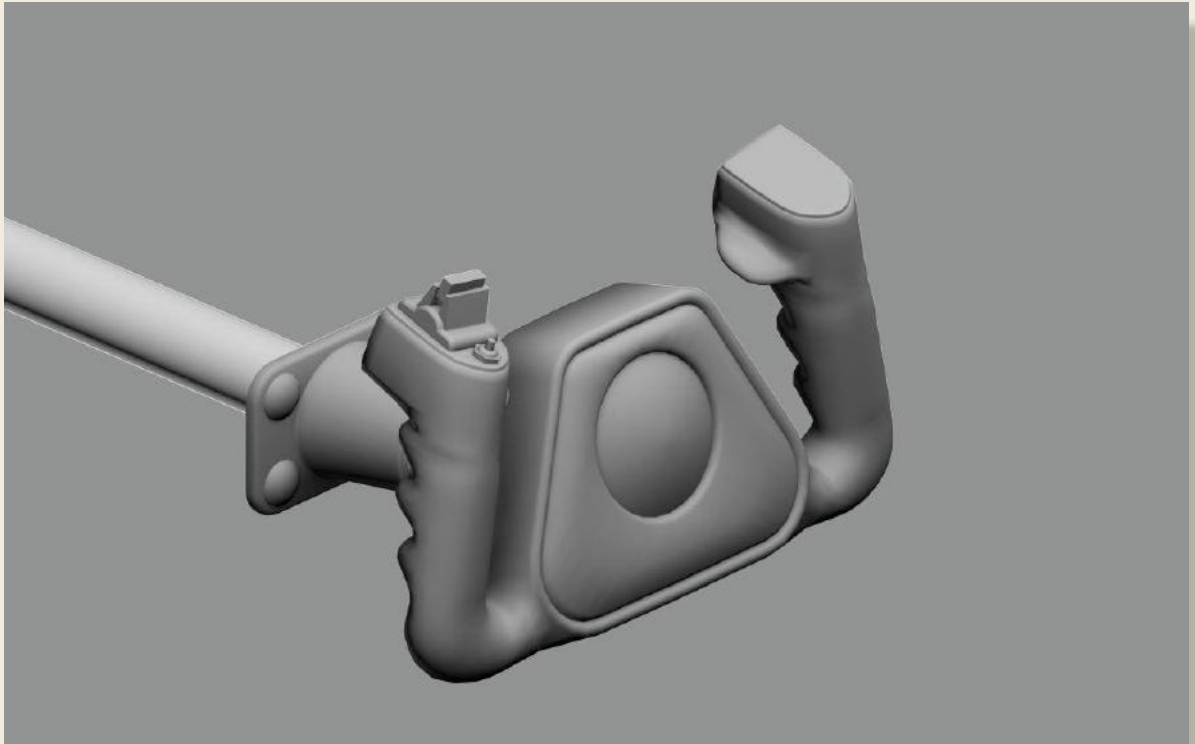
THE DESIGN PHASE

These are some 'work in progress' (WIP) screenshots of building the Super Viking. The amount of work is intense and takes a while due to attention to detail. I think these are cool to see so you can get an idea, and actually see the parts going together. These were rendered in 3ds Max.



MODEL BEING BUILT IN 3DS MAX USING ACTUAL PHOTOS
INSTEAD OF DRAWINGS FOR EXACT REFERENCE.

THE DESIGN PHASE



MODEL BEING BUILT IN 3DS MAX USING ACTUAL PHOTOS
INSTEAD OF DRAWINGS FOR EXACT REFERENCE.

THE DESIGN PHASE



SUSPENSION NOT TUNED YET, SITTING HIGH.
PROP LATER CHANGED TO ROUNDED TIP MACAWLEY BLADES



MODEL BEING BUILT IN 3DS MAX USING ACTUAL PHOTOS
INSTEAD OF DRAWINGS FOR EXACT REFERENCE.

TEAM MEMBERS OF THE VIKING PROGRAM

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CODING ASSISTANCE,
FLIGHT TESTING

SCOTT BECKWITH.....INSTRUMENTATION
CODER

WILLIAM LEAMING.....GNX430 SYSTEM CODER

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BILL ORTIS.....MODEL (MESH) MAKER
GRAPHICS ARTIST,
FLIGHT MODEL (HAND-
LING) DEVELOPER,
SCREENSHOT ARTIST,
ADVERTISING

ARNO.....FSX COMPILATION
ASSISTANCE

BACKGROUND KNOWLEDGE FROM VIKING PILOTS
INCLUDING SOME PHOTOS OF PARTS AND LOCATIONS
AND HOW THEY WORK FROM THE FACEBOOK
‘BELLANCA SUPER VIKING’ GROUP.

SPECIAL THANKS TO VICTOR, OWNER OF THE
REMAINING BELLANCA COMPANY FOR GIVING ME
PERMISSION TO REMAKE THIS BEAUTIFUL PLANE AND
THE EARLIER CLASSICS MANY YEARS AGO.

HELP AND INSPIRATION (LITERALLY).....JESUS CHRIST

SPIRITUAL MESSAGE

THE PRICE, PAID...



Good Friday, just before Easter, is the day that Jesus fulfilled His mission on Earth, 2020 years ago. To give His life as a ransom to save humanity on the garden world Earth. A fallen race rescued.

Right before He breathed His last, He said.. 'It is done!' or 'It is finished!' Mission complete. Objective fulfilled.

For 40 days and 40 nights, Jesus continued to be seen until He departed.

Did you know, in the Word, it tells that Jesus then left from the cross to the place where souls go when they perish. It was called 'Sheol', pronounced She-Ole. In Sheol, the land of the dead, deep in Earth, Jesus battled satan and his higher up administratives; generals for lack of a better term. Jesus took Sheol by force, on His worst day, right after going through the day of beating, flogging, shredding, a night in a dungeon with all those wounds, then carrying his own cross across a city, out onto a hill, and there, they killed Him on that cross. Even after all of that, He then went to battle and took a spiritual dark kingdom in

SPIRITUAL MESSAGE

THE PRICE, PAID...



Earth. The saying is, ...'and He took the keys of Sheol'. He captured it. The good people and the Prophets were released by Jesus. A rift was installed, a body of water often called 'Styx', that divided the good from the bad.

A busy weekend for the King of Kings.... The Son of the living God, Jehova.

A great battle.. A great price.. A horrible cost... A miraculous result...

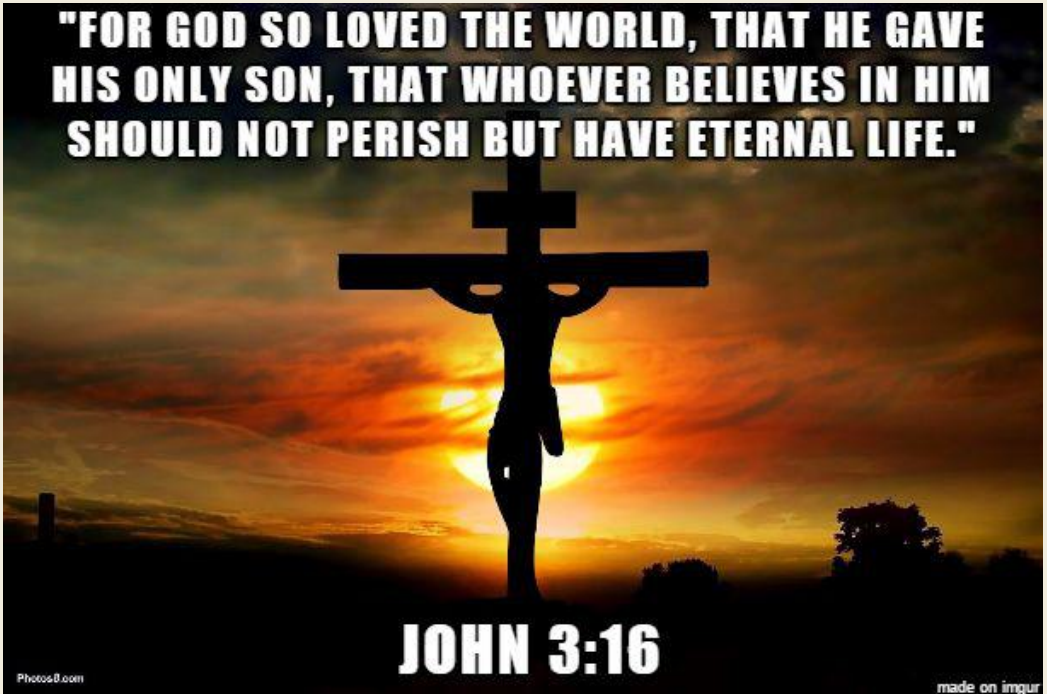
Right before Jesus perished, clouds built up, so densely, that right around 3PM in the afternoon, it was so dark from thick clouds, that it was almost like night.

When Jesus breathed his last, there was an Earthquake. Reported all throughout Jerusalem. A crack was formed by the Earthquake that ripped through the Temple in town. It overturned many items at the Temple. A lot of damage.

Oddly, another thing that occurred. A giant velvet like curtain, very

SPIRITUAL MESSAGE

THE PRICE, PAID...



heavy, was a 'veil' that separated the human area from the God area in the Holy of Holies chamber in the great Temple (a massive building for back then). And also, it was noted, the massive curtain was torn from the top down. How? How... Who could get up there, perhaps 2 to 4 stories in the air, inside the Temple, with all those guards, and tare the great curtain...

In symbology, they say it was done that 'now, nothing is standing between mankind and God, their creator... The veil was taken away. Now we could talk with God. We are no longer separated...

It is finished... It is done. The mission was completed.

The price He paid that we could be saved from a terrible doom.

**Thank you for your purchase. You
support my work, my life, my
existence, and my family as well.
Thank you.**

**And thank you for reading the manual
and learning about your brand new
Bellanca Super Viking! May it bring
you amazing, fun, awesome flights...**

**Made with Love... and sweat.. But lots
of Love..**

**Thanks to Roman for his amazing,
detailed, hard work and Wunderkind
coding on the Century III Autopilot
system. Incredible coder...**



Dedicated to Mom and Junior. I lost Mom the day after Thanksgiving, 2019. My little best friend that had been at my side for years was also called to Heaven just after Mom departed, about 7 days later. Mom was my fellow Prayer Warrior, Church buddy, and 'shoulder to lean on'. We had much fun. And Junior was always at my side. I miss them greatly...
