

NOTE: The Xbox version will not include the TDS GTN750Xi due to limitations!

NOTE: Some switches, button and knobs should not use the default sim bindings. We include a hardware binding documentation included in our download zip file if yu purchased from an online store. If you purchased through the sim marketplace you can get all of our documentation from our main website product page called MSFS PC & Xbox help files.

NOTE: Product support and update information can be found on Flysimware's Discord Community.

To report bugs or find solutions please locate the PRODUCT SUPPORT section!

Discord link.

https://flysimware.com/website2019/contact/

C-24-R

Exterior

Exterior Height: 8ft 5 inches Wing Span: 32 ft 9 inches Length: 25 ft 9 inches

Interior

Cabin Volume: 110 cubic ft Internal Baggage: 200 lb

Occupancy

Crew: 1

Passengers: 0-3

Operating Weights

Max T/O Weight: 2758 lbs Max Landing Weight: 2750 lbs Usable Weight: 872 lbs Empty Weight: 1886 lbs Fuel Capacity: 59.8 gal Payload W/Full Fuel: 513.2 lbs Max Payload: 692 lbs

Range

Range: 660nm Service Ceiling: 14000 ft

Distances

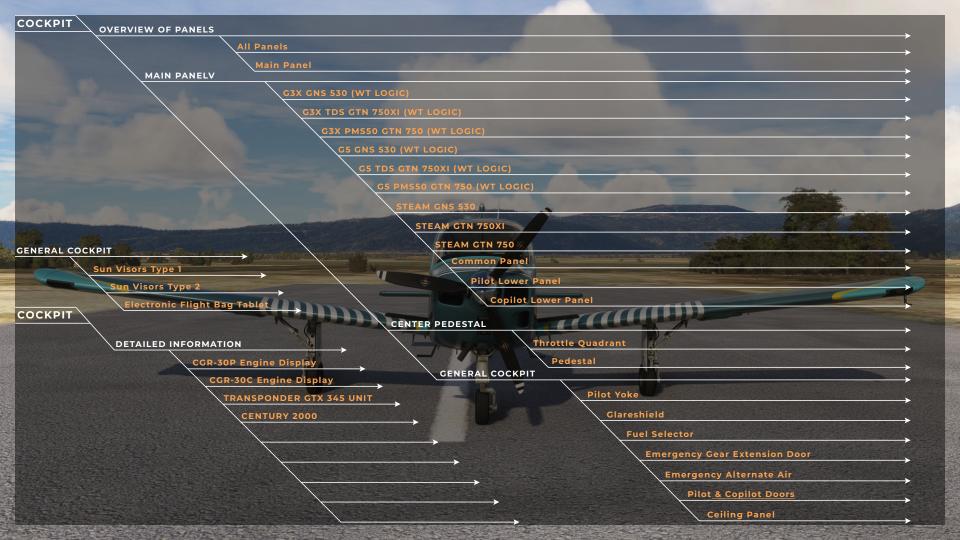
Takeoff Distance: 1860 ft Balanced Field Length: 1860 ft Landing Distance: 1320 ft

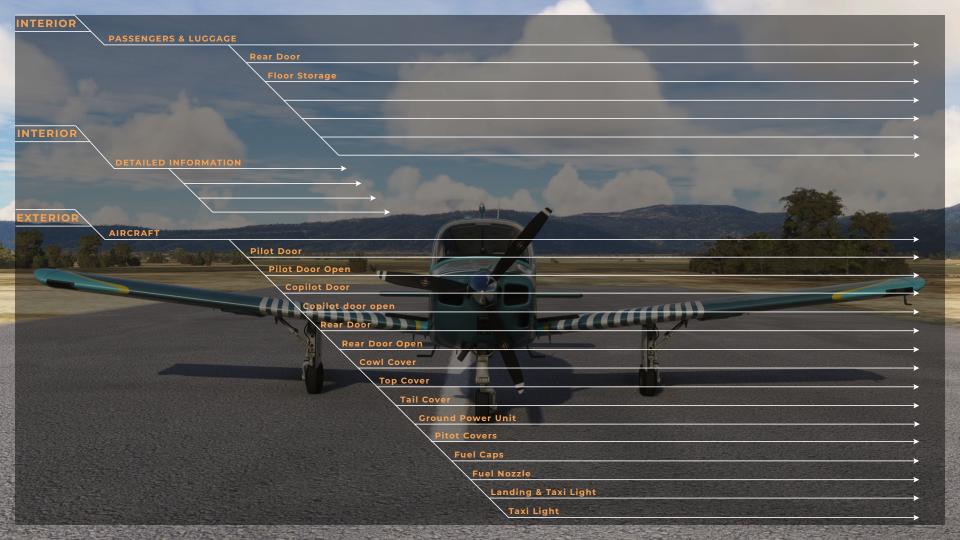
Performance

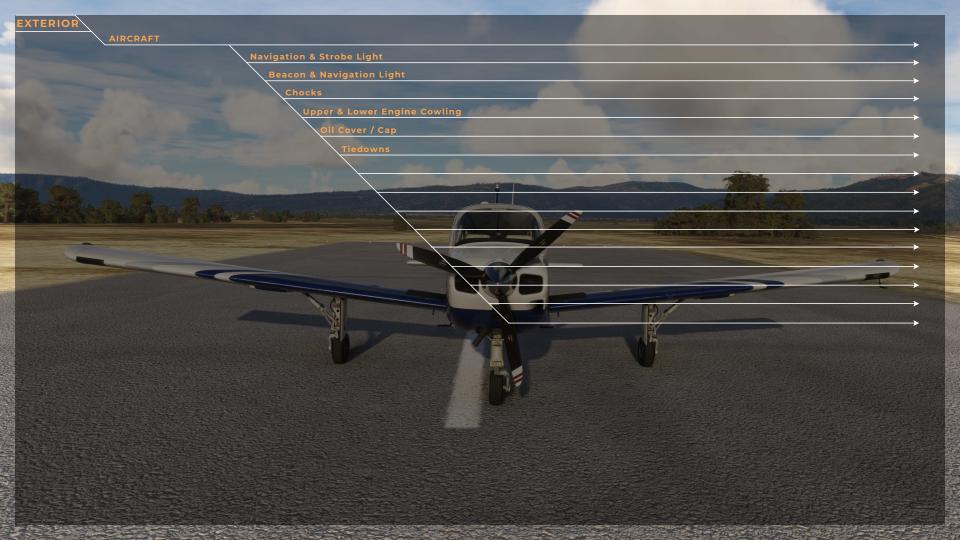
Rate of Climb: 891 fpm Max Speed: 142 ktas Cruise Speed: 135 ktas Economy Cruise: 125 ktas Endurance Cruise: 115 ktas

Power Plant

Engines: 1 Horse Power: 200 hp Engine Mfg: Lycoming Engine Model: IO-360-A1B6







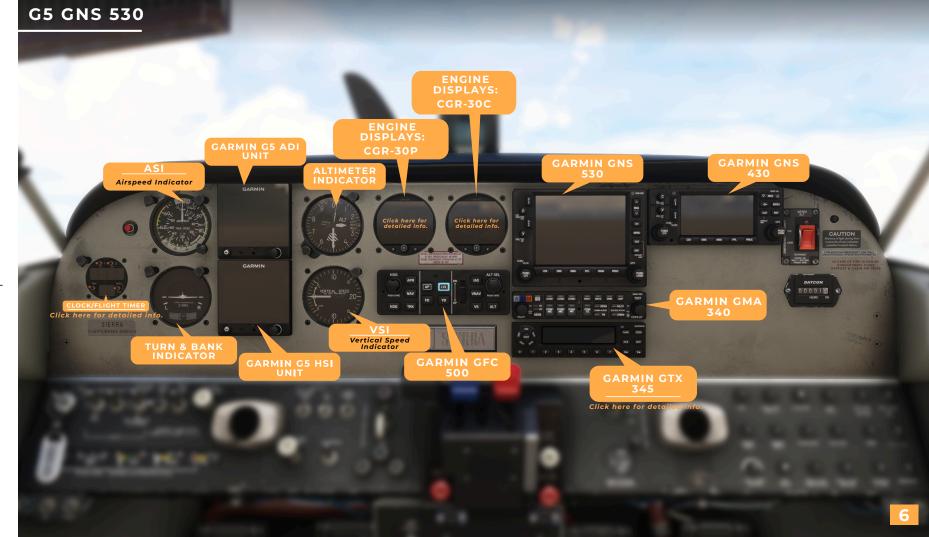


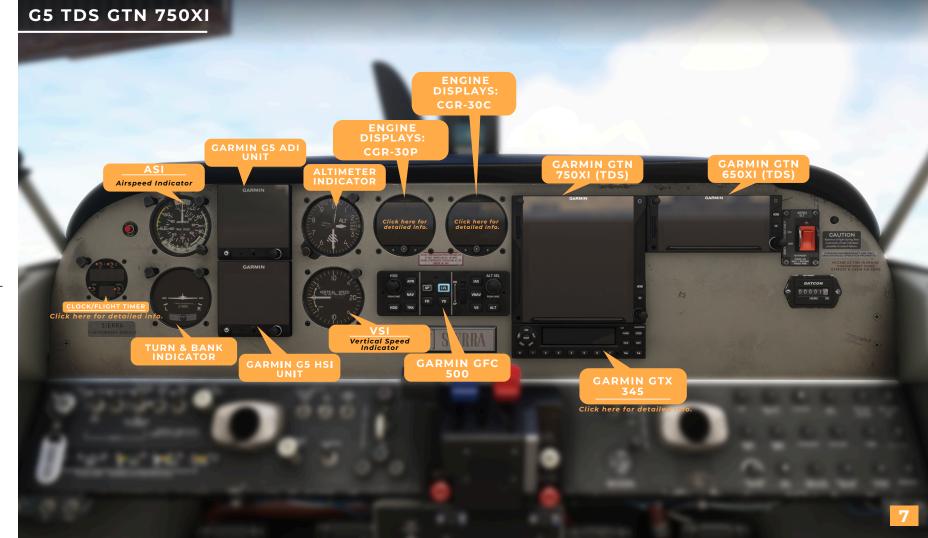






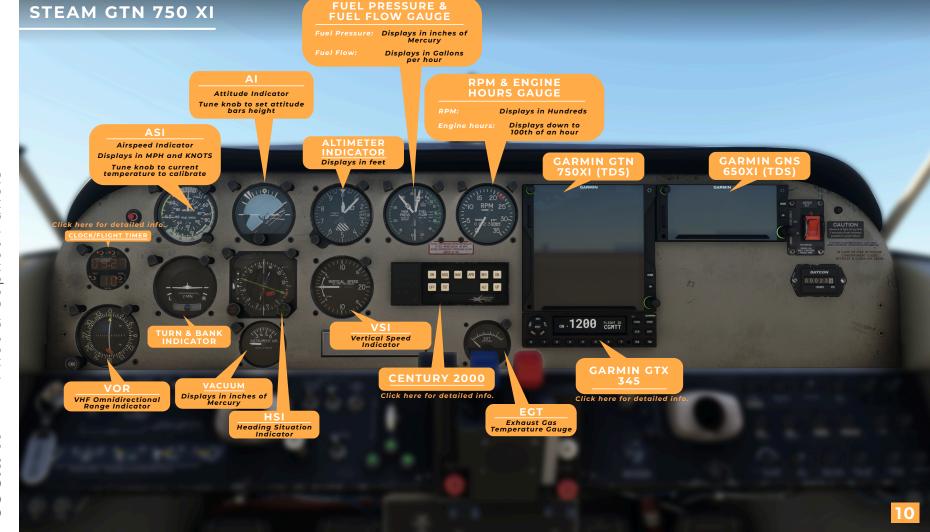


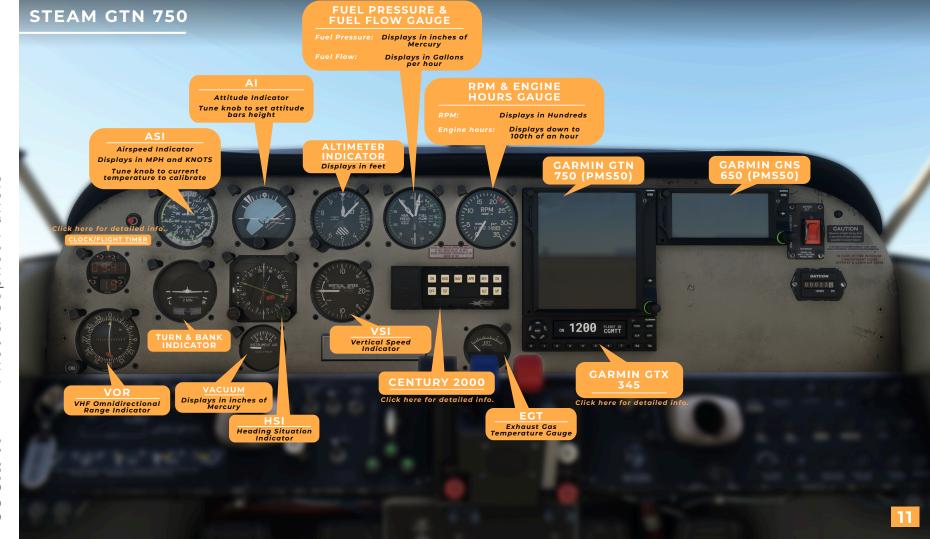




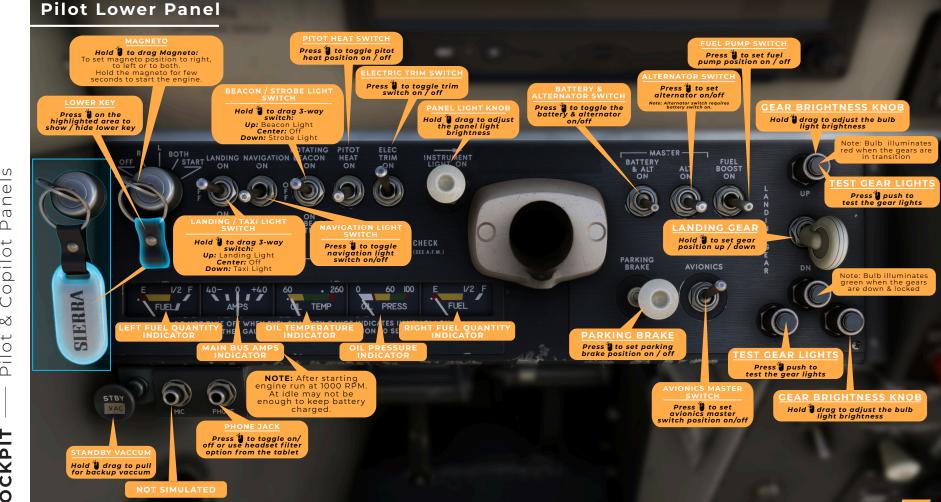




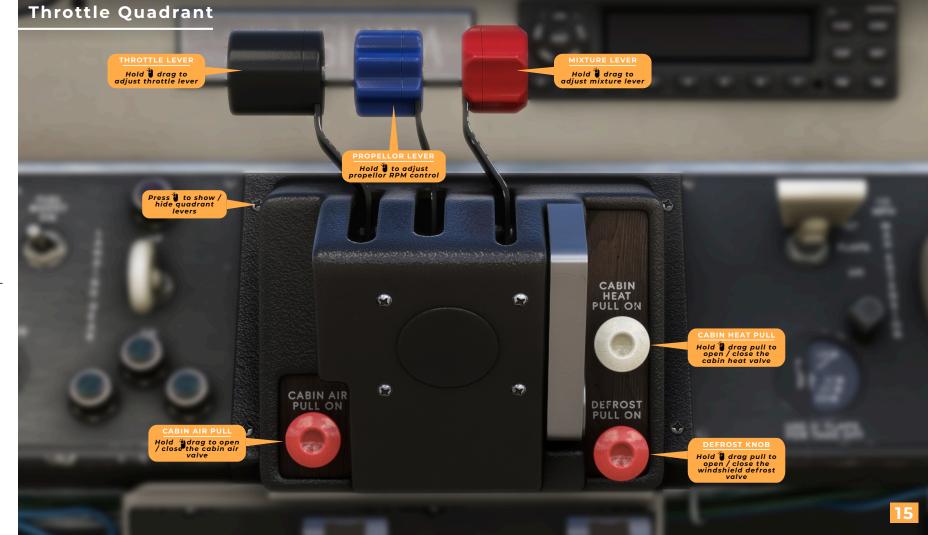




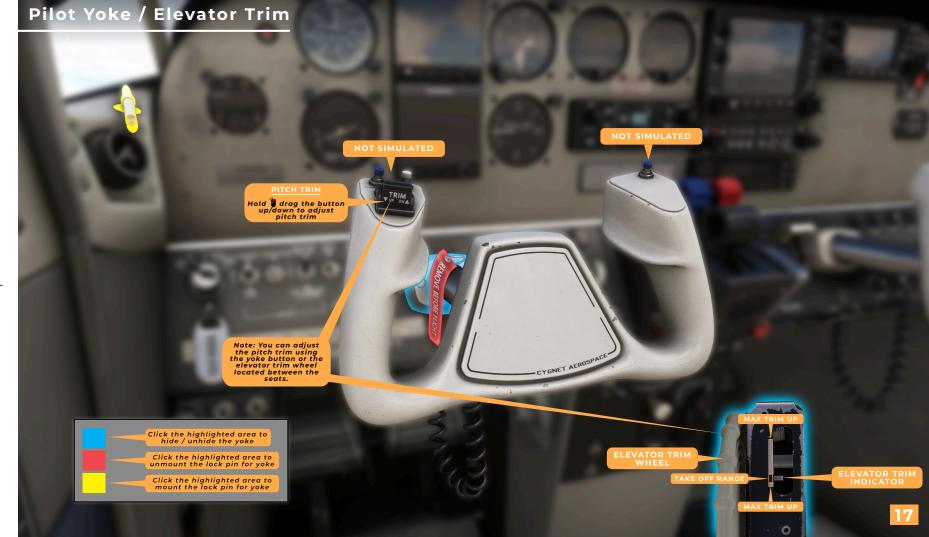


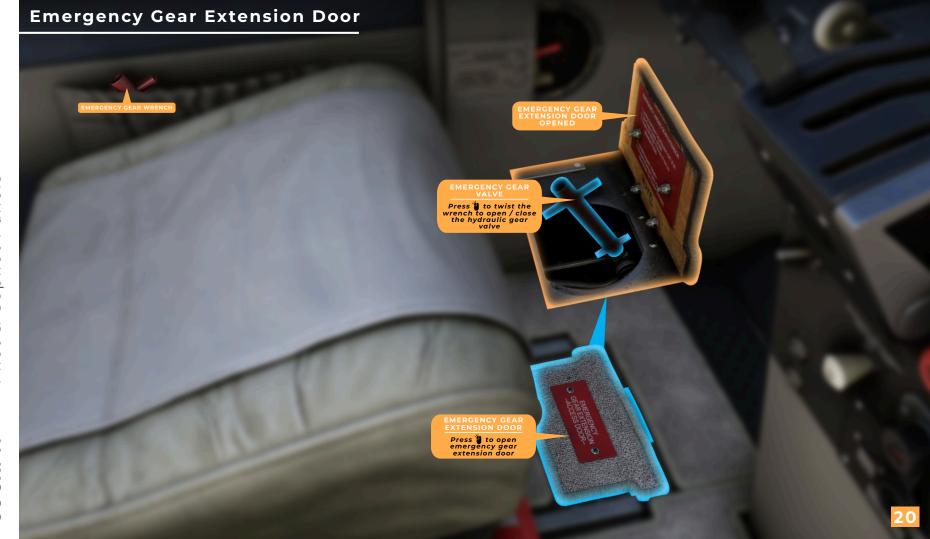




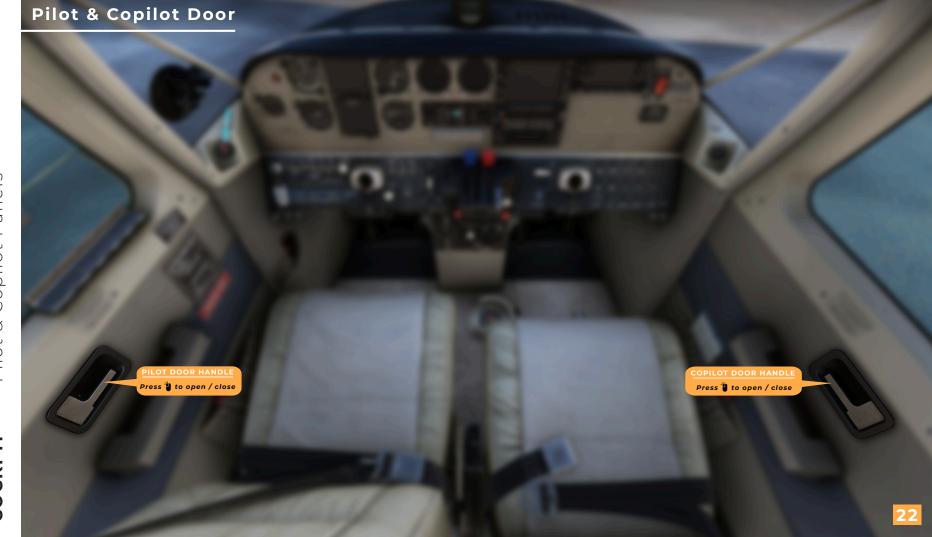










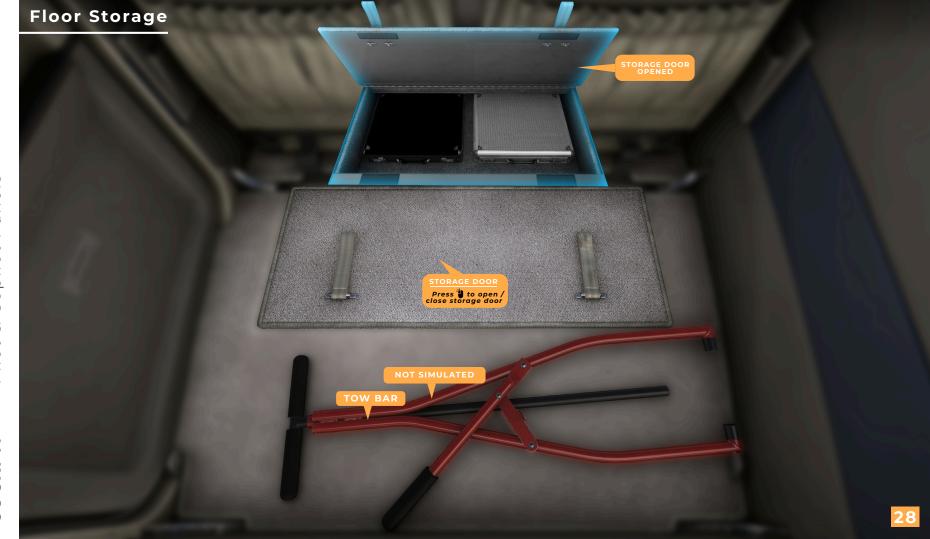






Electronic Flight Bag Tablet

















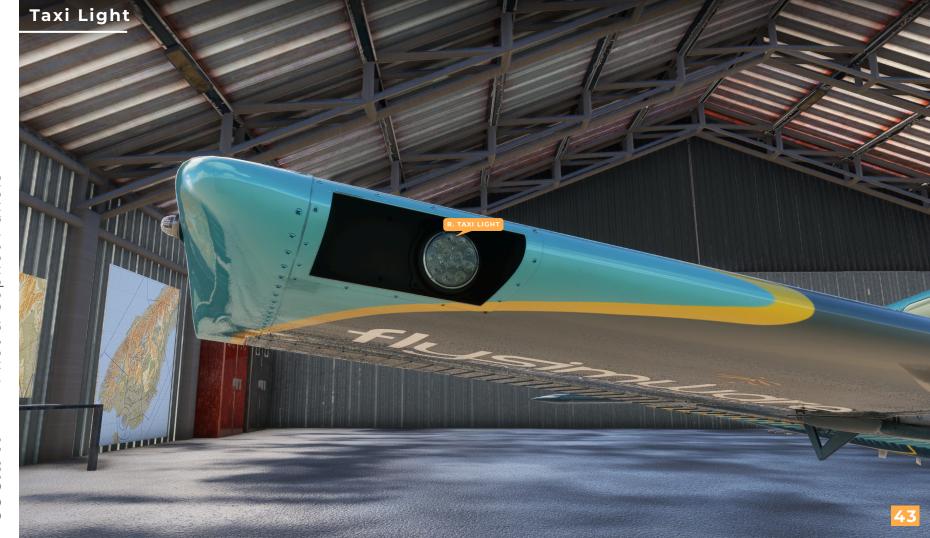


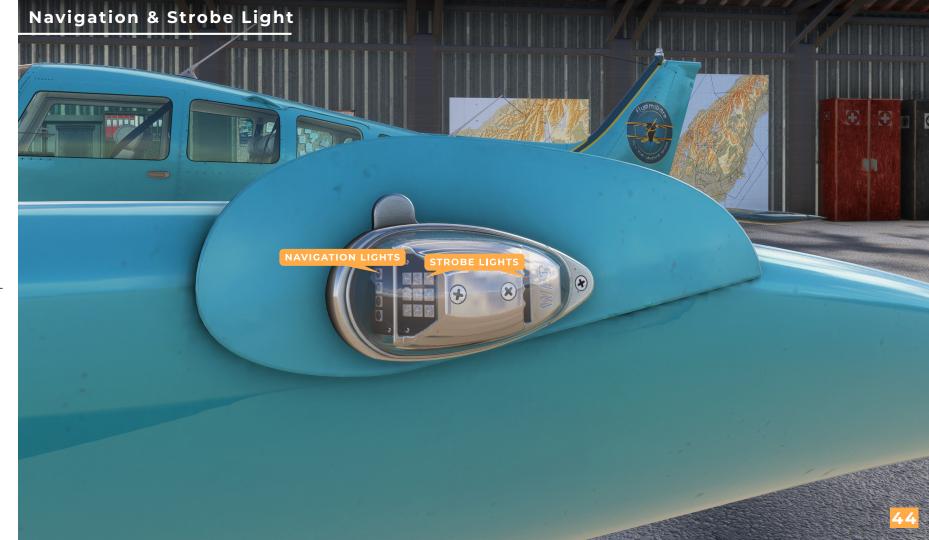










































GTX 345 Transponder



Overview

The CGR-30P is a state-of-the-art **Glass Panel Engine Monitor** that provides many of the engine and system instruments found in an aircraft panel. Each of the instruments displayed on the CGR's Main Engine Screen provides features not found in most multifunctional displays or traditional gauges.

Aircraft panels equipped with individual instruments require a pilot to scan and interpret a multitude of gauges spread across an entire panel.

By providing a single location for viewing the engine and many aircraft system instruments, the CGR reduces a pilot's workload and the chance of missing a problem. Additionally, the CGR provides both analog and digital displays with digits that blink and change colors when yellow or red operating ranges are reached. Also, an external Caution and Warning Light can be placed in front of the pilot. All of these features are designed to alert the pilot the moment any monitored function enters a red or yellow operating range.



MAIN ENGINE SCREEN

The main engine screen displays most of the engine and aircraft instruments monitored by the CGR. This is the screen the CGR displays after power-up and is the screen the pilot will view for most of the flight.



Main Screen Anunciators

Located between the M.P. and RPM instruments on the Main Screen are the following annunciators:

FUEL: When the estimated total fuel drops below 10 gallons the "FUEL" annunciator will blink.

SWITCH: When the "Recurring Fuel Alarm Qty" has been burned the "SWITCH" annunciator will blink. This provides a reminder for the pilot to switch fuel tanks. The "Recurring Fuel Alarm Qty" is set to every 10 gallons.

VOLTS: When the Voltage deviates from the normal range and indicates a low or high voltage, "VOLTS" annunciator will blink.



RPM & Manifold Pressure

The RPM and M.P. instruments incorporate a digital readout and an analog arc. The color of the digital readout will reflect the current range in which the function is operating (i.e., if the RPM is operating in the red,the digital readout will be displayed in red).

The digital display will blink when the RPM or M.P. operating levelreaches a yellow or red operating range. To stop the blinking, push the Exit button.

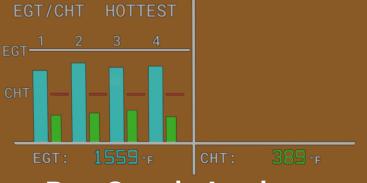


Horizontal Strip Gauges

On the Sierra C-24-R the horizontal strips includes Fuel Flow, Oil Pressure and Oil Temperature.

The three Horizontal Strip gauges provide the following features:

- 1. The Horizontal Strip Gauge features a pointer (triangle) marking the current operating level. Also, the pointer allows the pilot to interpret rate and trend information and provides field of vision.
- 2. A digital display is provided with each Horizontal Strip Gauge.
- 3. The digits on the digital display will blink when a function's operating level reaches a yellow or red operating range. To stop the blinking, push the Exit button.



Bar Graph Analyzer

The Bar Graph Analyzer has six operating modes: **EGT/CHT, Normalized, Lean ROP, Lean LOP, EGT** and **CHT** but on this aircraft only EGT/CHT mode is simulated.

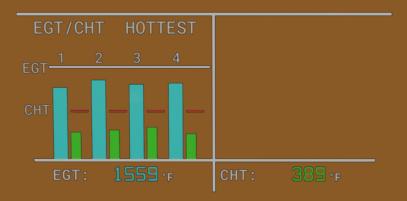
The CGR's current mode of operation is displayed in the top left portion of the Bar Graph Display.

<u>"EGT/CHT" Operating Mode:</u>

EGT stands for : Exhaust Gas Temperature CHT stands for : Cylinder Head Temperature

The vertical bars are arranged to show the EGT and CHT for each cylinder. The operating ranges for the EGT bars are set to match the engine's operating temperatures

If the EGT for a cylinder exceeds the pilot set High EGT Range, the bar for that cylinder will turn white and blink. This feature provides the pilot with a warning of a high EGT. The FAA does not allow exceedance of user set EGTs to display in red oryellow.



Bar Graph Analyzer

If the CHT for a cylinder exceeds the set limit, the bar for that cylinder will turn red and blink.

The current Digital Display Mode of operation is designated in the top right portion of the Engine Analyzer display.

There are four selections in the Digital Display Mode which are Select, Diff, Scan and Hottest. However, only the Hottest mode is simulated for this aircraft.

Hottest Mode: The Hottest Mode displays the hottest EGT and CHT in the digital display below the bars. This is the favorite mode of operation for most pilots.

Guage Buttons & knob



SCREENS Button: Pressing the SCREENS button sequences the CGR through the three display screens (Main, Secondary and Fuel Data).



SELECT Knob: The SELECT knob can be rotated. Depending on the screen and field being viewed, rotate the knob to scroll through fuel data screens on the fuel data screen.



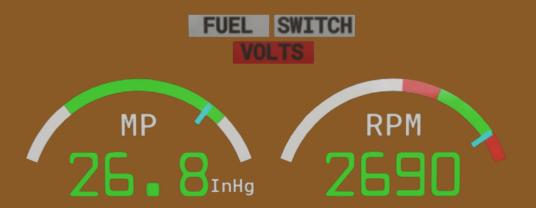
EXIT Button: Pressing the EXIT button will exit you out of a specific operation. Repeated presses will exit you out of the current screen and return you to the Main Screen. Pressing the E after returing to the main screen will clear the any displayed / blinking warnings.



SECONDARY SCREEN

The Secondary screen is intended to display functions that do not need to be displayed continuously. Although, one function with a red (warning) and/or yellow (caution) can be placed on the Secondary screen.

If a primary function on the Secondary screen reaches a red or yellow operating range, an annunciator located between the two arc gauges located at the top of the Main Screen will blink. In this way the pilot is alerted of a potential problem and should view the Secondary screen for further information.



Main Annunciators, RPM & Manifold Pressure

The Main Annunciators, RPM and Manifold Pressure gauges are located at the top of the Secondary screen. Each of these instruments are carried over from the Main screen.



Three Annunciators:

The three annunciators located just below the RPM and M.P. Gauges provide a status indicator for the three horizontal strip gauges found on the Main screen. If any one (or all) of the strip gauges on the Main screen transition into a yellow or red operating area, the appropriate annunciator on the Secondary screen will blink the name of the function in red. To acknowledge and stop the blinking, press the Exit button while viewing the Main screen. All functions monitored by the CGR-30P with yellow and/or red range markings are either viewed or annunciated on the Secondary screen.



Six Horizontal Strip and/or Digital Gauges:

Six additional gauges (horizontal Strip and/or Digital) are provided on the Secondary screen.

The CGR-30P has a number of derived functions (Horse power, Tachometer, Engine Hrs, Flight Time, Local Time, Zulu Time, etc.) that can be placed on the Secondary screen.

EGT: 1559 · CHT: 388 · F

EGT/CHT Digital Gauges:

The digital display located at the bottom of the Secondary screen provides the hottest EGT (EGT-H) and hottest CHT (CHT-H). This displayed data is carried over from the Main screen.



FUEL DATA SCREEN

The Fuel Data Screen provides six sets of data based on Fuel Flow and GPS information. This data includes Range, Distance to Destination, Range after reaching your Destination, Fuel Remaining, Fuel to Destination, Fuel Reserve, Time to Empty, Time to Destination, Time Reserve, Fuel Used for the Flight, Fuel Used since fuel was Added, Economy (MPGs) and Total Fuel onboard.

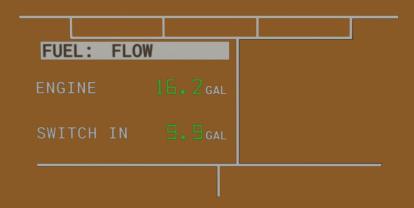
The Fuel Data screens provide flight data based on fuel flow, fuel remaining, fuel used and GPS data. The screens provide the follow data:



Total Fuel Cylinder:

For all the fuel data screens the estimated Total Fuel is provided in the right hand portion of the display. The bottom white portion of the displayed cylinder represents the last 45 minutes of fuel on-board. The fuel above this amount will be displayed in green.

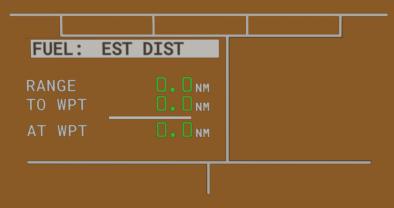
When the estimated total fuel drops below 10 gallons the "FUEL" annunciator on the main screen will blink.



Fuel: FLOW

This screen provides the current Fuel Flow for the engine and if the Recurring Fuel Alarm is set, the quantity or time before the next alarm.

CKPIT



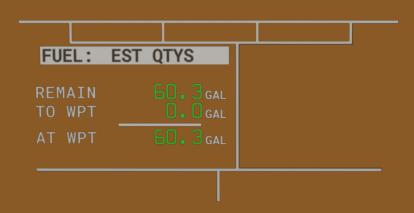
Fuel: EST DIST

This screen provides the following Distance data:

RANGE – This is the distance the aircraft can travel based on the current fuel flow, fuel remaining and GPS ground speed.

To WPT – This is the distance to the destination based on GPS data.

At WPT – This is the calculated distance in reserve after the aircraft reaches its destination (Range – Distance to Destination).



Fuel: EST QTYS

This screen provides the following calculated Fuel Quantity data:

REMAIN – This is the total estimated fuel remaining on-board the aircraft.

To WPT – This is the estimated fuel required to reach the GPS Destination.

At WPT – This is the calculated fuel in reserve after you reach your destination (Fuel Remain – Fuel required to reach your Destination).



Fuel: EST TIME

This screen provides the following calculated Time data:

To EMPTY – This is the estimated time to empty based on the fuel remaining and the current fuel flow.

To WPT - This is the time required to reach your destination based on GPS data received.

At WPT – This is the reserve time after you reach your destination (Time to Empty – Time to Destination).



Fuel: EST AT DEST

This is a display of all the estimated reserves (after you reach your destination). The CGR-30P calculates the Distance, Time and Fuel Qty in reserve early in the flight allowing the pilot to manage fuel and make critical decisions as the flight progresses.

Return



Fuel: EST USED

This screen provides the following calculated Fuel Used data:

Flight – This is the fuel used for the current flight. When the flight timer starts, this field is reset to zero and fuel accumulates as the flight progresses.

Since ADD - This is the fuel used since your last fill-up or if you did not fill-up, since you added fuel.

Economy – This is your current economy in nautical miles per gallon. It is calculated from the current fuel flow and GPS ground speed. This can be very helpful in dealing with winds aloft and leaning.

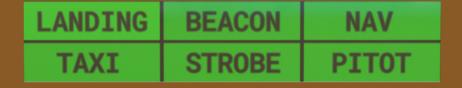
Leaning past 100 degrees rich of peak EGT reduces horsepower and therefore airspeed. It also reduces fuel flow. The displayed Economy allows you to determine if continuing to lean produces a true fuel savings and how much. Also, different altitudes can have different winds aloft. In this case the displayed Economy allows you to determine if one altitude provides a fuel saving over another.

Return



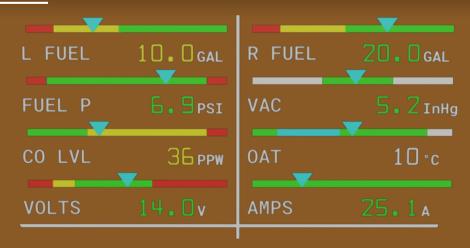
Overview

The CGR-30C provides you with several full-color strip gauges, which give pilots a quick reference view of critical parameters, along with digital readouts for the pinpoint accuracy. Pilots can configure the display to show the information they find most relevant, allowing for better situational awareness.



PITOT HEAT AND LIGHTS INDICATORS

The Pitot Heat and Light Indicators are positioned at the top of the Secondary screen. They light up green when activated. By monitoring these indicators, you can ensure that both the pitot heat and lighting systems are working correctly, which is essential for safe and effective flight operations.



Horizontal Strips

On the CGR-30C Engine Display, the horizontal strips includes L Fuel, R Fuel, Fuel Pressure, Vacuum pressure, Carbon Monoxide Level, Outside Air Temperature, Volts And Amps.

The Horizontal Strip gauges provide the following features:

- 1. TheHorizontal Strip Gauge features a pointer (triangle) marking the current operating level. Also, the pointer allows the pilot to interpret rate and trend information and provides field of vision.
- 2. A digital display is provided with each Horizontal Strip Gauge.
- 3. The digits on the digital display will blink when a function's operating level reaches a red operating range. To stop the blinking, push the Exit button.



L & R FUEL STRIP

Purpose: Displays the fuel level in the left and right fuel tank.

Display: Shown as a graphical strip on the gauge screen, indicating the amount of fuel remaining. The strip will visually deplete as fuel is used.

Monitoring: Helps in ensuring that the left and right tank has enough fuel for safe flight operations and in making decisions regarding fuel management and tank switching.

Alerts: The CGR-30 C also provide alerts if fuel levels approach critically low levels. The digits on the digital display will blink when a fuel level reaches a red operating range. To stop the blinking, push the Exit button.





FUEL PRESSURE

Purpose: Monitors and displays the fuel pressure in the system, which is crucial for ensuring that the fuel is being delivered to the engine at the correct pressure.

Display: Shown as a graphical strip on the gauge screen. It represents the current fuel pressure, with the level indicating whether the pressure is within the normal operating range.

Monitoring: Regularly check the Fuel Pressure Strip to ensure that the fuel pressure is stable and within the recommended range. Abnormal readings can indicate potential issues with the fuel system, such as a failing fuel pump or a blockage.

Alerts: The CGR-30 C will provide visual alerts if the fuel pressure falls below or rises above the preset limits. These alerts are designed to warn you of potential issues that could affect engine performance or safety. The digits on the digital display will blink when a fuel level reaches a red operating range. To stop the blinking, push the Exit button.



VACUUM PRESSURE

Purpose: Measures the vacuum pressure in the system. This is crucial for ensuring that vacuum-powered instruments operate correctly.

Display: Shown as a graphical strip on the screen, indicating the level of vacuum pressure. It helps you monitor whether the vacuum system is functioning within its normal range.

Monitoring: Regularly check the VAC strip to ensure that the vacuum pressure is stable and within the recommended range. Low or fluctuating vacuum pressure can indicate issues with the vacuum pump or system, potentially affecting instrument performance.

Alerts: The CGR-30 C may trigger visual or audible alerts if the vacuum pressure deviates from the normal range. These alerts are designed to notify you of potential issues with the vacuum system.





CARBON MONOXIDE LEVEL

Purpose: Measures and displays the concentration of carbon monoxide in the cockpit or cabin. High levels of CO can be dangerous and affect pilot performance and passenger safety.

Display: Shown as a graphical strip & numerical value on the gauge screen. It indicates the current level of carbon monoxide, allowing you to monitor its concentration.

Monitoring: Regularly check the CO LVL display to ensure that the carbon monoxide levels are within safe limits. This is important for ensuring a safe flying environment.

Alerts: The CGR-30 C may provide visual alerts if carbon monoxide levels exceed safe thresholds. These alerts help you take immediate action to address the issue. The digits on the digital display will blink when a fuel level reaches a red operating range. To stop the blinking, push the Exit button.



OUTSIDE AIR TEMPERATURE

Purpose: Displays the temperature of the air outside the aircraft. OAT is used to assess performance, fuel efficiency, and weather conditions.

Display: Shown as a numerical value & graphical indicator on the gauge screen. It provides real-time information about the ambient temperature outside the aircraft.

Monitoring: Regularly check the OAT display to understand how external temperature affects flight performance and to make necessary adjustments to flight operations.



VOLTS

Purpose: Displays the voltage level of the aircraft's electrical system, which typically operates at either 12V or 24V, depending on the aircraft's configuration.

Display: Shown as a numerical value & graphical strip on the gauge screen, representing the current voltage. This helps you monitor the health of the electrical system.

Monitoring: Regularly check the voltage reading to ensure that it remains within the normal operating range.

Alerts: The CGR-30 C will provide visual if the voltage deviates from the normal range. Low voltage may indicate a failing alternator or battery, while high voltage could suggest an issue with the voltage regulator. The digits on the digital display will blink when a fuel level reaches a red operating range. To stop the blinking, push the Exit button.





AMPS

Purpose: Displays the current in amps that the electrical system is using or providing. It shows the load being placed on the electrical system and the output from the alternator.

Display: Shown as a numerical value & graphical strip on the gauge screen, indicating the amount of current. Positive values typically represent current being provided by the alternator, while negative values may indicate current being drawn from the battery.

CENTURY 2000 AUTOPILOT AP ROLL TRIM ON APR DN HDG NAV REV ATT HDG EXT ALT NAV **TST TST** UP OFF **ALT APR** GS **AUTOPILOT TEST** CENTURY **PUSH TO TEST REV** N/A 2000 Press = to interact

NOTE: ROLL MODE WAS ADDED TO WORK WITH WORKING TITLE LOGIC!

ON = MASTER AUTOPILOT ON

*ATTITUDE - ATT mode places pitch command with the ON switch.

OFF = MASTER AUTOPILOT OFF

HDG = HEADING HOLD MODE

*In HDG mode the aircraft will track the heading bug selected on the HSI.

^{*}BANK - ROLL mode places roll command with the ON switch.

TST = ALL ANNUNCIATORS SHALL ILLUMINATE

NAV = NAVIGATION MODE

*In NAV, APR, or REV modes the aircraft will intercept and track any properly programmed radio-defined course.

APR = APPROACH MODE

*APPROACH - The APR mode provides an automatic 45 degree VOR-LOC intercept angle and selected angle intercepts.

REV = BACK COURSE MODE

*REVERSE (Back Course) - The REV mode is for use in tracking the localizer back course Inbound and front course Outbound or VOR course Outbound.

Automatic 45 degree intercepts, selected angle intercepts, crosswind correction and tracking are as described in the APR mode except that response to radio signals is reversed.

ALT = ALTITUDE HOLD MODE

*ALTITUDE - ALT mode will cause the aircraft to maintain the pressure altitude present at the time of ALT engagement.

*ALT may be engaged at maximum rate of climb or descent, but for passenger comfort, rate of climb or descent should be reduced to 1,000 feet per minute or less prior to ALT engagement. Depressing either the pitch UP or DN switch will shift the AP mode back to ATT mode.

DN = PITCH MODIFIER SWITCHES UP = PITCH MODIFIER SWITCHES

*PITCH MODIFIER SWITCHES - The pitch modifier switches are momentary push-button type, located on the right side of the Mode Programmer, used to modify the airplane's attitude and to shift the AP from the ALT mode to the ATT mode.

*ATTITUDE - ATT mode places pitch command with the pitch UP and DN switches. Pitch is always synchronized to the existing aircraft attitude after pitch modification. When engaging the autopilot or when transferring the system to ATT from ALT, the aircraft will maintain its existing attitude.