Flysimware's "CESSNA C441 CONQUEST ll" Manual

This manual is for Microsoft Flight Simulator and Prepar3D. Not intended for real world use!

For detailed instructions on how to fly similar aircraft, see the Aircraft Information articles in the Learning Center. For standard procedures, see the Checklists tab. For suggested speeds, see the Reference page of the Kneeboard. Note that most actions can also be performed using the mouse or the control panel. (Shift + 1)

VISIT FLYSIMWARE.COM AND CHECK THE NEWS OR PRODUCT PAGE FOR THE

LATEST UPDATES!

TIP:
THE EXTERIOR MODEL CASTS A SHADOW IF FSX SETTINGS ARE TURNED ON.

1. DXT10 PREVIEW ON:
INTERIOR MODEL CAST SHADOWS.

2. DXT10 PREVIEW OFF:
INTERIOR MODEL DOES NOT CAST SHADOWS.

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3. Weight distribution:

Do not over load the aircraft. All passenegrs, luggage are set to 0 as default. Under aircraft fuel and payload you can increase loads and save your flight. For example "C441 Fully Loaded".

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station_name.0  = "Pilot"
station_name.1  = "Co-Pilot"
station_name.2  = "Pass1 Row 1"
station_name.3  = "Pass2 Row 1"
station_name.4  = "Pass1 Row 2"
station_name.5  = "Pass2 Row 2"
station_name.6  = "Pass1 Row 3"
station_name.7  = "Pass2 Row 3"
station_name.8  = "Pass1 Row 4"
station_name.9  = "Pass2 Row 4"
station_name.10 = "Luggage 600Lbs MAX"
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Table of Contents:

1. Installation:

Double Click the (Aircraft logo) installer.
Have your registration code copied into your mouse(clipboard). This will auto type your registration code for you. Type any name in the name box and leave the business name blank and click next.

This installer will auto find your fsx game no matter where it is! If
it does not find your game, just go to our help page at Flysimware.com

Our models are located under Flysimware as the manufacturer in the simulator select aircraft page.

2. Description:

The Cessna 441 Conquest ll was the first turboprop powered by Cessna and filled the gap between their jets and piston engine aircraft. Developed in 1974 and delivered in 1977. Pressurized, 8-9 passenger turbine is a development of the Cessna 404. The gear has tricycle landing gear system and the engines are powered by two Garrett TPE331 turboprops two four bladed McCauley or Hartzell propellers. The majority of Cessna 441's have been upgraded to TPE331-10 engines inplace of the earlier versions. The modification reduces maintenance costs while increasing horepower, service ceiling, fuel efficiency and range. These conversions have a higher resale value over the original model. Converting from the standard three blade propellers to a smaller diameter Hartzell four blade propellers results improves climb rate by 200 FPM. The Conquest has been operated by corperate owners, air charter operators and exported to many Countries which are still in use today.

Flysimware has designed this specific aircraft since Flysimware's beta captain has flown this aircraft and is very familiar with this specific model. With hundreds of hours and custom coding we have brought you the most realistic Garrett turboprop simulation aircraft on the market. Due to FSX limitations on the turboprop engines we have worked around the coding to product a linked prop shaft direct to the prop and being the first company to simulate a real world Garrett turboprop system. To learn more about our model please visit our product page for the latest manual and detailed tutorial videos on standard walk around to engine start or shut down procedures.

PERFORMANCE FIGURES:

(All performance figures from Sea Level and Full Gross Weight)

AIRFRAME:

Fuel capacity: 481.5 gal

Fuel capacity: 3,222 lbs

Empty weight: 5801 lbs

Payload weight: 2699 lbs

Max T.O. weight: 9,850 lbs

POWERPLANT:

Custom coding for the 2 Garrett TP 331 turboprop engines and sounds for the most realistic Garrett simulation ever produced. Now known as Honeywell 331 engines. This is a geared drive engine unlike the common turboprop you find in a king Air aircraft.

PERFORMANCE:

Cruise Speed 230-250 KTS

Maximum Range: 2,525 nm

Service Ceiling: 35,000 ft

Max Gross Weight: 9,850 lbs

Horsepower: 635.5 x 2

Length: 39 ft.

Span: 49,4 ft

3. Mouse Control & Tool Tips

Almost all switches and levers are mouse controlled. Tool tips are added to some gauges, for more info on a specific gauge, knob, button or toggle switch. Tooltips can be turned "ON" or "OFF"! Located in FSX aircraft settings page.

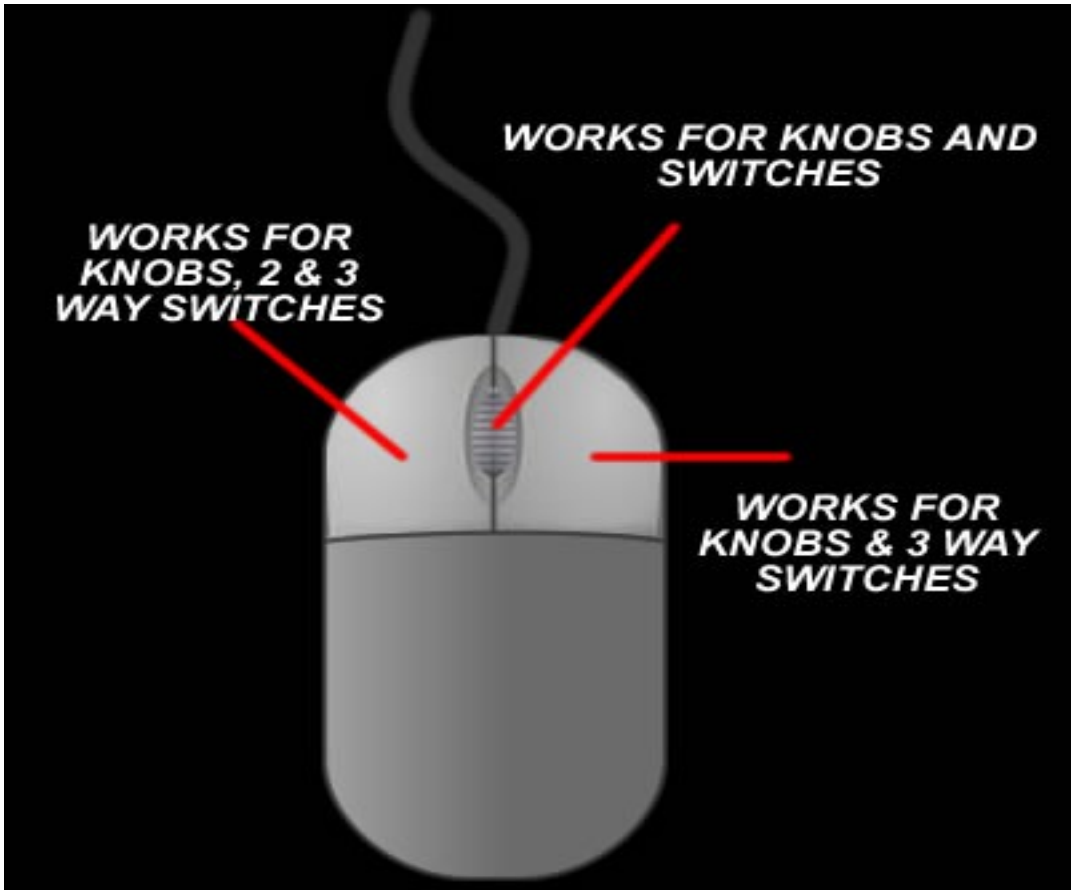
Opening the exit from the inside can be done by clicking the handles. To close the doors click the hydraulic arms.

TIP: IMPORTANT TO READ THIS INFO

If you hear a sound when clicking a switch that does not move try right clicking or using the mouse wheel. Here is a chart showing all functions.

Radio and GPS knobs can be tuned by rolling mouse wheel. Clicking is for pushing a knob.

The power knob for the GPS requires that you roll your mouse up to turn on and increase brightness controls.



4. 2D windows

Control Panel = Aircraft Service Hanger. (Shift + 1)

Aircraft Options = Change features and more. (Shift + 2)

GPS Panel = Open 2D GPS (Shift + 3)

5. Aircraft Modes

Using the Control Panel or Aircraft Options panel you can change aircraft modes remove pilot or change pilot options.

AIRCRAFT MODES:

LUGGAGE / WHEEL CHOCKS / ENGINE PLUGS & FLAGS / WINDSHIELD SHADES

PILOTS AND LIGHTING MODES:

REAR CABIN-CABIN-PANEL-WING LIGHTS / PILOT / CO-PILOT / HEADSET / SUNGLASSES

6. CESSNA 441 CONQUEST ll FUNCTIONS

For videos and detailed instructions on how to fly this aircraft please visit the product page at Flysimware.com

For suggested speeds, see the **Reference** page of the Kneeboard. The kneeboard has step by step checklist procedures from startup to shutdown.

Open your kneeboard located in our service hanger control panel. **(Shift + 1)** Then look for the logo located near the bottom right. Or use the games option to open kneeboard window.

FLIGHT GAUGES:

1. PROP DE-ICE GAUGES / OAT / SUCTION PRESSURE, inHg

2. QUARTZ CHRONOMETER

3. VOR 2

4. TURN COORDINATOR

5. AIRSPEED INDICATOR

6. COLLINS RMI

7. COLLINS ADF

8. COLLINS ATTITUDE INDICATOR

9. COLLINS HSI

10. (RVSM) ALTIMETER

11. GROUND RADAR

12. VERTICAL SPEED INDICATOR

13. ALTIMETER ALERTER

ENGINE GAUGES:

1. TORQUE INDICATORS
2. EXHAUST GAS TEMPERATURE INDICATORS
3. RPM INDICATORS (NON DIGITAL DUE TO LIMITATIONS FOR ACCURACY)
4. FUEL FLOW INDICATORS
5. OIL PRESSURE AND TEMPERATURE INDICATORS
6. FUEL QUANTITY INDICATORS IN POUNDS

AUTOPILOT SYSTEM:

1. PROP SINK SWITCH

2. AUTOPILOT DISENGAGE TEST

3. AUTOPILOT BANK INDICATOR

4. AUTOPILOT PITCH REF WHEEL

5. WING LEVER (MOUSE WHEEL)

OUTER WHEEL IS RUDDER TRIM (L & R CLICK)

INNER KNOB IN PULLED POSITION IS AILERON TRIM (L & R CLICK)

6. MIDDLE POSITION IS OFF

UP IS AUTOPILOT ON AND YAW DAMPER ON

DOWN IS YAW DAMPER ON

GEAR PANEL:

1. AUTOPILOT MODE SELECTOR

FLIGHT DIRECTOR (BUTTON)

AUTOPILOT AND GO AROUND LIGHTS

VOR/LOC (BUTTON) LOCALIZER ONLY

HEADING HOLD (BUTTON)

NAV HOLD MODE (BUTTON)

NAV OR GPS (BUTTON)

ALTIMETER HOLD (BUTTON)

GLIDE SLOPE (BUTTON) GS AND LOCALIZER

BACK COURSE (BUTTON)

2. DISABLE GEAR HORN SOUND

3. GEAR LEVER

4. EMERGENCY GEAR LEVER (HOLD L MOUSE BUTTON DOWN OR R BUTTON)

5 . GO AROUND BUTTON (ENGAGES LIGHT ON ALTIMETER GAUGE, ENGAGES LIGHT ON MODE SELECTOR, ENGAGES FD, AND ENGAGES ALT HOLD MODE)

START PANEL:

1. IGNITION OVERRIDE SWITCH
2. GENERATOR AND BATTERY SWITCHES
3. L & R STARTERS AND NTS CHECK SWITCH
4. L & R STOP SWITCHES
5. FUEL BOOST SWITCHES
6. TORQUE / EGT LIMIT SWITCHES
7. DE-ICE SWITCHES
8. GYRO INVERTER / AVIONICS MASTER SWITCHES

LIGHTS:

1. FUEL COMPUTER SWITCHES FOR MANUAL START

2. PANEL LIGHT SWITCH

3. LANDING LIGHT SWITCH (L & R CLICK)

DOWN= RETRACT LIGHT MOTOR

MIDDLE= LIGHTS OFF

UP= EXTEND LIGHT MOTOR AND LTS ON

4. TAXI LIGHT SWITCH

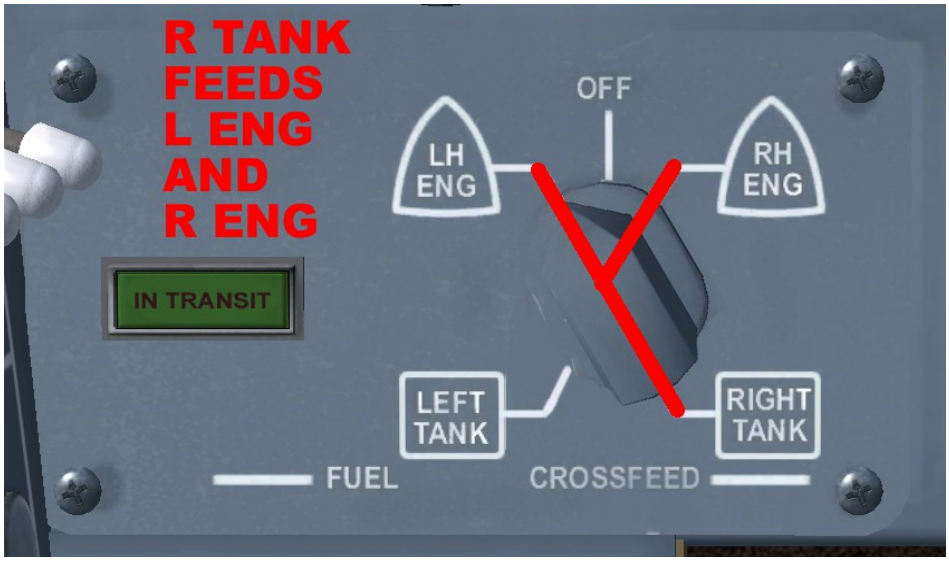
5. NAV LIGHT SWITCH

6. ANTI-COLLISION LIGHT SWITCH

7. DE-ICE WING LIGHT SWITCH

8. RECOGNITION LIGHT SWITCH

FUEL:



EXAMPLE IN RED SHOWS WHAT HAPPENS WHEN YOU MOVE THE SWITCH INTO THE LEFT POSITION. "RIGHT TANK ROUTES FUEL TO BOTH ENGINE. LEFT TANK INOP."

USED TO BALANCE TANKS OR IF YOU HAVE AN ENGINE FAILURE. (THIS KEEPS YOUR AIRCRAFT BALANCED FOR BANK CONTROL)

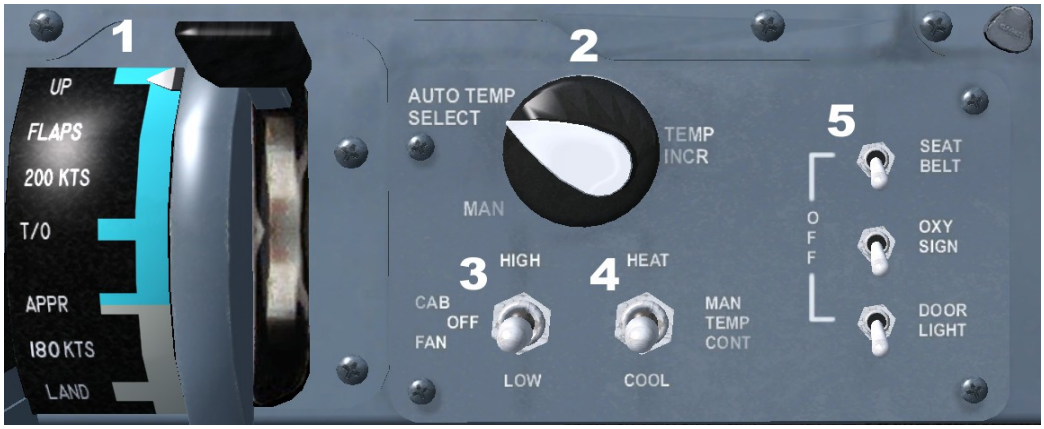
OFF POSITION ROUTES L TANK TO L ENG AND ROUTES R TANK TO R ENG

THE "IN TRANSIT" LIGHT WILL APPEAR FOR 3 SECONDS EVERYTIME THE FUEL VALVE HAS MOVEMENT.

(AIRCRAFT OPTIONS PANEL ALSO SHOWS SPECIFIC FUEL ROUTES WHEN CHANGING THE FUEL KNOB)

TIP: ALTHOUGH THE PANEL IS LABELED CROSSFEED, THERE IS NO CROSSFEED SYSTEM RATHER A SYSTEM THAT RE ROUTES THE FUEL PATH FROM 1 TANK TO BOTH ENGINES AND CLOSES THE VALVE TO THE OTHER TANK.

HEATER AND AIR:



THE FLAPS IN THE REAL AIRCRAFT CAN POSITION IN ANY POSITION. WE DECIDED TO GIVE YOU 3 POSITIONS NORMALY USED FOR FLAP POSITIONS.

1. FLAPS INDICATOR AND LEVER

POSITION 1 = TAKEOFF

POSITION 2 = APPROACH

POSITION 3 = LANDING

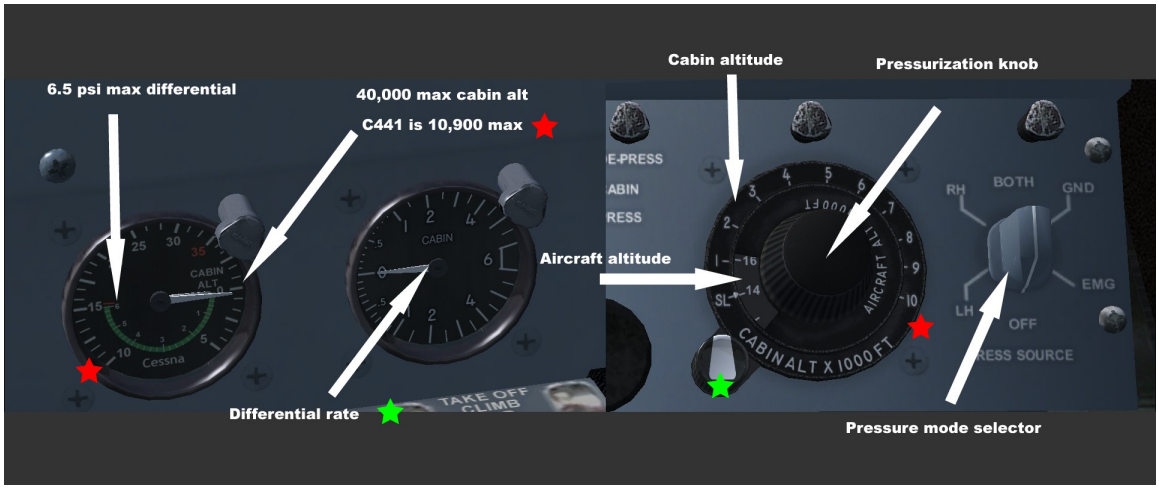
2. TEMPERATURE CONTROL KNOB (HOLD L CLICK DOWN AND DRAG)

3. CABIN FAN MOTOR SWITCH (L & R CLICK)

4. CABIN HEAT OR AIR CONDITIONER SWITCH (L & R CLICK)

5. SEAT BELTS SIGN / OXYGEN SIGN / DOOR AND REAR CABIN LIGHT

PRESSURIZATION SYSTEM:



MOST PILOTS USING THIS AIRCRAFT JUST LEAVE THE PRESSURIZATION KNOB AT SEA LEVEL SINCE THE SYSTEM HAS A MAX OF 6.5 PSI AND WILL AUTO PRESSURIZE. FEEL FREE TO SET YOUR CRUSING ALTITUDE AND ONCE YOU CLIMB THROUGH 14,000 THE CABIN WILL PRESSURIZE TO THE CORRECT PSI BASED OFF OF YOUR SETTING AND ALTITUDE.

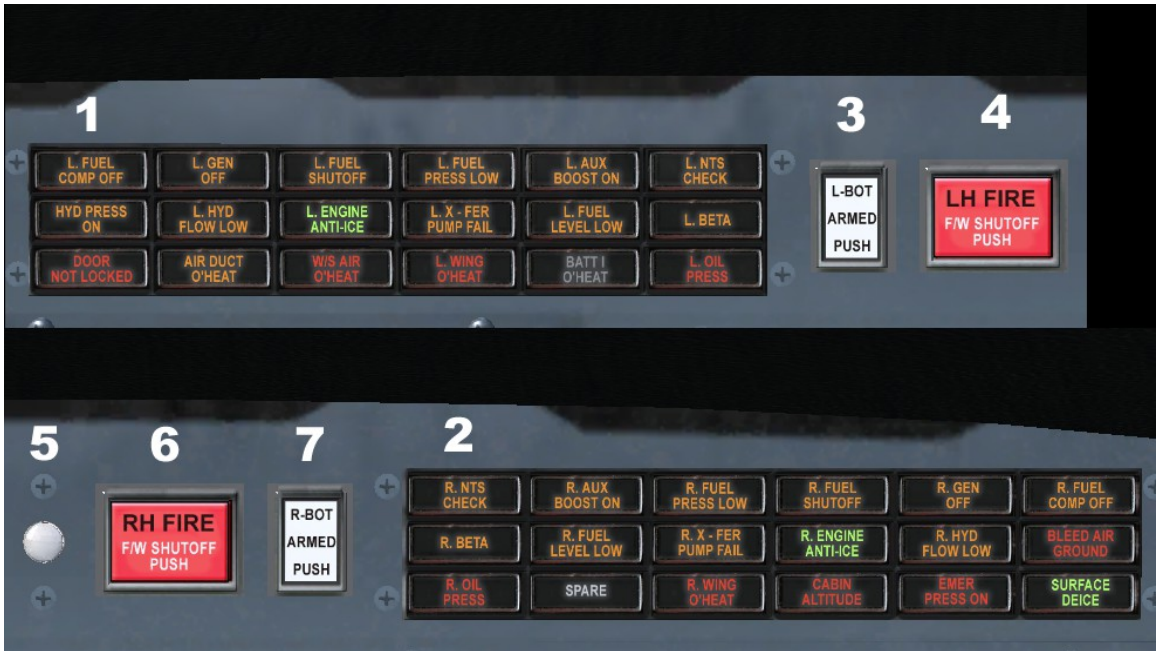
THE INNER SMALL CABIN NEEDLE INDICATES THE PSI DIFFERENTIAL.

THE OUTER LARGE NEEDLE SHOWS THE CABIN ALTITUDE.

THE GREEN STAR ABOVE SMALL KNOB ALLOWS YOU TO INCREASE OR DECREASE THE RATE AT WHICH THE CABIN PRESSURIZES. AND SHOWS THE DIFFERENTIAL RATE INDICATED ON THE OTHER GAUGE.

BOTH GAUGES ARE LOCATED ABOVE THE THROTTLE LEVERS AND THE PRESSURIZATION SELECTOR IS LOCATED BELOW THE THROTTLE LEVERS AT THE BOTTOM OF THE PEDESTAL.

ANNUNCIATOR WARNINGS:



MASTER WARNING BUTTON "NOT SHOWN IN PIC ABOVE" TURNS OFF THE MASTER WARNING LIGHT UNTIL EITHER ANOTHER WARNING APPEARS OR THE SAME WARNING RESETS AND APPEARS ONCE AGAIN.

IF YOU DO NOT SHUT OFF THE MASTER WARNING AND THE WARNING ISSUE IS RESOLVED THE LIGHT WILL SHUT OFF AUTOMATICALLY.

1. LEFT ANNUNCIATORS
2. RIGHT ANNUNCIATORS
3. LEFT FIRE BOTTLE ENGAGE
4. LEFT FIRE SHUTOFF WARNING AND ARM L-BOTTLE
5. ANNUNCIATOR WARNING TEST SWITCH
6. RIGHT FIRE SHUTOFF WARNING AND ARM R-BOTTLE
7. RIGHT FIRE BOTTLE ENGAGE

7. CESSNA C441 propeller start locks:

Start locks need to be set by you the user each time you start or stop engines!

Opem the aircraft options panel to confirm you have the start locks "LOCKED" or "UN_LOCKED".

Make sure you parking brake is on every time you do an engine start.

STARTING:

Press the NTS check switch to the left position for the left engine. Now press the start button on the left 1 time. Watch for the NTS light on the annunciator panel to go off quickly and then return back on around 30 percent RPM. Now turn off the NTS switch by right clicking and it should return to the middle position. Now wait for the torque to return to a lower reading or RPM is above 50 percent. Once you have waited move the trottle lever into the reverser position and return to ground idle.

Make sure the NTS switch is center before you attempt to un lock the start locks.

If you move the throttle into the reverser position too early the aircraft may lift the front wheel off the ground due to FSX limitations for turboprops.

Now repeat for the right engine. Never start both engines at the same time to prevent the aircraft to move forward. This is another issue FSX has but in return gives you more throttle response for more realism.

STOPPING ENGINE:

Press the stop button for either engine and move the throttle lever into the reverser position to lock the start locks or also known as prop feathering. If you do not re lock the start locks and the propeller has stopped the next time you try to start engine the engine will not start due to air resistance. Now you need to lock the start locks using the NTS switch.

LOCKING START LOCKS WITH ENGINE OFF:

Move the NTS switch into either position for a specific prop and move the throttle lever into the reverser position.

8. Uninstall aircraft:

Go to start, all programs and look for the folder called "Flysimware". Inside is your uninstall exe called "Flysimware CESSNA 441 CONQUEST ll". Or go to the add and remove programs in windows.

Removing this product has "NO EFFECT" on your game!

9. Testing:

Tested on Microsoft Flight Simulator FSX Acceleration and requires SP2 Update or Acceleration update to work properly with all the newest features included for Microsoft Flight Simulator X.

Developer: Flysimware.com