

Cessna 414A Chancellor versus 421C Golden Eagle Discussion

Jerry Temple Aviation (JTA) typically represents several Cessna 414/414A's and 421B/C's.

The following information is meant to provide customers interested in a Cessna 414A Chancellor or a 421C Golden Eagle with information to aid in making a selection.

The Cessna 414A with the marketing name of Chancellor was manufactured from 1978 through 1985. None were made in 1983. Only twelve units in 1984-1985. Therefore, consider production from 1978-1982.

The 414A's standard engine is the Continental TSIO520-NB rated at 310HP. The RAM Series IV Conversion increases horsepower to 325HP. The RAM Series VII Conversion increases horsepower to 335HP. American Aviation Intercoolers combined with the standard 310HP engine provide RAM IV (325HP) "Like Performance".

AA Intercoolers may also be on a RAM Series IV Conversion but not a Series VII. The RAM Series VII Conversion has a larger RAM Intercooler and Turbocharger.

RAM Winglets may be installed on 414A's regardless of the engine. 414A's with RAM Winglets are referred to as 414AW's.

See RAM's website at www.ramaircraft.com for information on the Cessna 414A with the RAM IV or VII Conversion and RAM Winglets.

See American Aviation's website at www.americanaviationinc.com for information on the AA Intercoolers for the Cessna 414A.

The 414A has the longest wing of any piston powered Cessna Twin. The wing carries 206-usable gallons. Cessna offered no Nacelle Tanks due to the 414A's large fuel capacity. Aftermarket "Wing Locker" tanks are available. Few pilots need such additional range.

The wing is very efficient. Like a glider's wing, the high-aspect ratio wing provides excellent lift. In fact, the single-engine service ceiling of a 414A with the standard 310HP engine is 19,850 feet – almost 20,000 feet. By comparison, the single-engine service ceiling of the 421C with 375HP is 14,900 feet – approximately a 5,000 feet greater single-engine service ceiling for the 414A with 65 less horsepower per engine. All due to the Chancellor's wing.

Both the 414A and 421C have "Wet Wing Fuel Systems". The wing is the "fuel can". Each carries 213 total gallons. The 421C may have one or two optional 28-gallon Nacelle Tanks. Each model may have aftermarket "Wing Locker" tanks.

The Wet Wing Fuel System allows for the 414A and the 421C to have Hydraulic Landing Gear. The Hydraulic Gear has a fast retraction and extension speed. And, since an inner gear door is eliminated, the VLO and VLE Speeds are a high 176 or 177 KIAS. If drag is needed, Approach Flaps and the Landing Gear may be extended at these high speeds.

With the 421C there are two types of the Hydraulic Landing Gear. The 1976–1979 models have versions similar to the 414A. The 1980-1985 421C has the Trailing Link Single Main Landing Gear. The “TL Gear” offers softer taxiing and landings. There is a considerable value add-on for the 1980 Model with the TL Gear over a 1979 Model with the Lower Piston with Upper Trunnion Style Gear.

RAM Winglets are available on the 1976-1979 421C's. Cessna 421C's with RAM Winglets are referred to as 421CW's. They are not available on the 1980-1985 Models with the Trailing Link Main Gear.

The Propeller on the 414A will be either a McCauley or Hartzell Three-Blade Heated Propeller. Typical diameter is 76-inches. A few 414A's may have the composite MT Four-Blade Propeller. The McCauley or Hartzell Propeller TBO is typically 1500 to 2000 Hours and/or five to six years. JTA stresses that propellers and engine TBO is only a suggestion in Part 91-Piston Operations. Propellers only need receive an Annual Inspection.

The Propeller on a 421C has a huge 90-inch diameter with a wide cord. The geared 375HP GTSIO520-L or N engines require this large propeller. The typical cruise operating RPM of a 414A's propeller is 2300-2500 RPM. The 421C's typical cruise RPM is at 1800-1900 RPM. It is a dramatic reduction in sound. The cabin of a 421 is quieter than many Jets and Turboprops. Normal speaking volume is easy in a 421C.

The cabin/cockpit size of a 414A and 421C is almost the same. Too little differences to discuss. However, the 421C has a seat with collapsing center aisle armrests. These are always “stowed down” for take-off and landing. They do provide for a wider seat.

The standard seat in a 414A has a fixed center aisle armrest. However, this armrest may be removed. Also, many 414A's have 421 Style seats installed. Cessna allowed this as a special modification. Customers may see 414A Spec Lists, other than one from JTA, listing a 414A with a 421 Interior. That is an error. Only the four club cabin seats are 421C Style Seats.

Most 414A's and 421C's have an Aft Cabin Refreshment Center and Lavatory with a Relief Tube. A few operators remove the Refreshment Center and “Potty” for more baggage area. Some later year model 414A's and 421C's have a Forward Cabin Refreshment Center. Most all aircraft have an Executive Table on each Cabin Side Panel. Some aircraft will have 2-4 Under Seat Storage Drawers.

The typical Useful Load (people, baggage, fuel) weight range of a 414A or 414AW is 1800-2000 pounds. This may vary up or down. With full fuel of 206-gallons/1236 pounds, the typical Payload (people, baggage) is 564-764 pounds. JTA stresses many flights do not require carrying a high fuel load, yet still having the proper reserve fuel.

The typical Useful Load (people, baggage, fuel) weight range of a 421C or 421CW is 2100-2400 pounds. This may vary up or down. With 206-gallons/1236 pounds, the typical Payload (people, baggage) is 844-1164 pounds.

See RAM's website at www.ramaircraft.com for Ramp, Gross Take-Off, Zero Fuel and Landing Weights as appropriate for RAM Converted 414A/414AW's and 421C/421CW's. See the Technical Data Sheet at www.jerrytemple.net for weights of JTA Listed Aircraft.

The vast majority of Twin Cessnas will have Vortex Generators (VG's) installed. VG's provide for a safer and better performing Piston-Twin on single-engine. VG's can easily be added if not installed. Vortex Generators will often change the Certified Ramp or Take-Off Weight. Different brands of VG's offer different increases. See JTA's Technical Data Sheet at www.jerrytemple.net for weights of JTA Listed Aircraft.

Spoilers or Speed Brakes are installed on some 414A's and 421C's. Spoilers are a nice feature for both Speed and Descent Management. Spoilers "pop up" on the top of each wing and extend in the airflow over the wing – creating drag. Spoilers have no speed restriction. JTA has shops that can install Spoilers under JTA's oversight.

A few 414A's and 421C's have Aft Fuselage Strakes. Strakes are fin like devices under the Aft Tail Fuselage. Strakes offer an additional 8-10 KTAS in cruise and better stability in turbulence. JTA has shops that can install Strakes under JTA's oversight.

A few 414A's and 421C's have the R/STOL High Lift System (STOL Kit) installed. This aftermarket modification used to be called a Robertson STOL Kit. Aircraft with an R/STOL System have reduced take-off and landing distances. It is unrealistic to consider adding an R/STOL System to any Twin Cessna today. The cost would be prohibitive.

For aircraft needing completely new Paint, Interior or Avionics Upgrades, JTA has shops experienced in doing Twin Cessnas. JTA can coordinate/oversee such projects.

JTA can coordinate/oversee any Post-Sale needed and/or desired Maintenance and/or Modifications.

See at www.jerrytemple.net under Buyer Services and Training, information on JTA's available Delivery and Training Support.

Review: The 414A Chancellor was manufactured from 1978-1985. None in 1983 and only a few in 1984-1985. Aircraft with RAM Winglets are 414AW's. The Continental TSIO520-NB engines may be:

- 310HP
- 325HP RAM IV
- 335HP RAM VII
- 310HP with American Aviation Intercoolers ("325HP Like")

Note: Ramp and Take-Off Weights may be increased for aircraft with RAM Conversion and Vortex Generators.

The 421C's Continental GTSIO520-L or N engines are all rated at 375HP. This is the aircraft's muscle. More horses can pull heavier wagonloads, but you have to feed the horses. A fair trade-off.

JTA will be pleased to offer opinions and information on the 414A's and 421C's engines and propellers.

Both the 414A and 421C have a 5.0 psi Variable Rate Pressurization System. Typical cabin altitudes while flying in the high teens and low twenties is 7000-8000 feet. It is a simple system to operate.

Both the 414A and 421C have a large Nose Baggage Area and also Wing Locker Storage areas plus the Pressurized Aft Cabin.

Both the 414A and 421C have excellent crew visibility with a large Pilot and Copilot Windshield and Side Windows. Each Cabin has ten oval side windows providing a bright-open cabin.

Each aircraft has the same systems for aircraft Heating and Cooling. Cabin Heat is provided by the Pressurization System and a 35,000-45,000 BTU Heater. Cooling is provided by fresh air and air-conditioning.

Most 414A's and 421C's are Certified for Flight Into Known Icing. They are equipped with Full Wing and Tail DeIce Boots, electrically heated Propellers and a Heated Pilot's Windshield.

So what is the difference?

- Yes, the 421C will consume 4-5 more gallons per hour.
- The 421C typically has a 300-500 greater Useful Load.
- The 421C is quieter inside the cabin.
- Some "C" Models have Trailing Link Landing Gear.
- The cost to overhaul/exchange a 421C's engine will be greater.
- All 421C's have the larger style cabin seat.

For pilots upgrading from a High Performance Single-Engine (HPSE) and wishing to have a Cabin-Class Pressurized Piston Twin or for a firm with a Jet needing a Pressurized Twin for shorter flights with few passengers, the 414A or 421C cannot be beat. Hands down the best choice!

JTA role is to support your purchase of the right model Twin Cessna and the best aircraft for your mission, budget and your overall aviation plans.

Hopefully, this information will be of help in deciding which model is best for you.

Jerry Temple Aviation