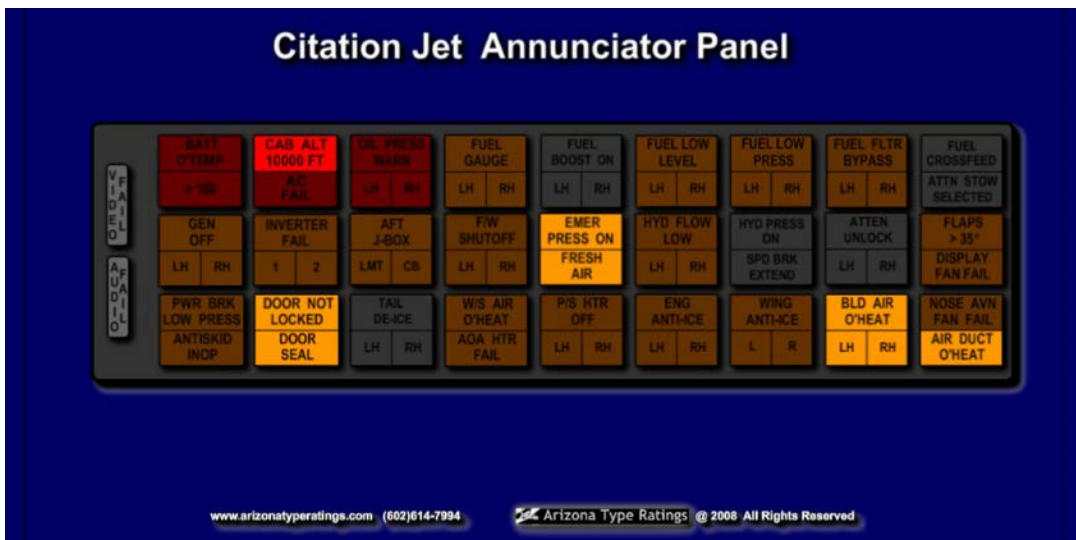


Fuselage

The CitationJet fuselage is constructed primarily of aluminum. The structure itself has no design life limits. Beginning at the front, the removable nose section covers the Radar antenna, various gyros, avionics, various computers, cooling fans and standby gyro battery. Behind the avionics compartment is the nose baggage compartment. This area is accessible through two baggage doors which are hinged at the top. Typical baggage capacity is 350 lbs. A placard will display the nose baggage capacity. Nose baggage doors are each armed with a micro-switch that illuminates the “DOOR NOT LOCKED” annunciator light on the annunciator panel in the cockpit. This switch position notifies the crew only that one or more of the doors are not key locked. These micro-switches are located on the locks themselves, indicating whether or not the associated lock is engaged. The key position switch does not notify the crew of an unsecured latch. On later models, the annunciator light identifies the specific door unlocked such as “NOSE BAGGAGE DOOR L or R”, “CABIN DOOR” or “AFT BAG DOOR”. Though not electrically wired in series, the switches on early models all report to one “DOOR NOT LOCKED” annunciator light and you must locate the offender by trial & error.



Early CJ Environmental Annunciators



Door not locked switch on key lock

The forward pressure bulkhead is essentially the aft wall in the nose baggage compartment. Located on this bulkhead are numerous sight gauges which allow the crew to inspect certain systems during walk around as follows. See figure on the next page.

A pressure gauge is installed on a pneumatic bottle which contains nitrogen used to operate wheel brakes in the event of hydraulic brake failure. This bottle can also be used to insure that the landing gear are locked down should it be necessary to extend the wheels by the alternate means due to a hydraulic or electrical failure.

The brake fluid reservoir is also located on the forward pressure bulkhead. The reservoir will have an upper and a lower sight gauge. In addition, there will be an accumulator pressure gauge visible beside the brake fluid reservoir. This gauge should be inspected both before and after turning the battery switch on. The needle should be in the pre-charge range before energizing the

airplane. After electrically powering the airplane, the needle should rest at the top of the green. The braking system will be covered in detail in the “Hydraulics” chapter.



Alcohol, nitrogen bottle and brake reservoir

The other reservoir located in this area contains alcohol to be used for windshield anti-ice in the event of a windshield bleed air system failure. This reservoir contains a 10 minute supply of isopropyl alcohol which can be applied to the captain's half of the windshield by a DC electric motor driven pump. A sight gauge is provided to check fluid level in this reservoir.

Finally, the supplemental oxygen bottle is typically located under the floor of the nose baggage compartment. A green blow out disc will be located on the fuselage outside skin under the right nose baggage door. Absence of this green disk indicates that safe

temperature or pressure limits of the oxygen bottle have been exceeded and the bottle is empty. An empty bottle is also evidenced by the oxygen pressure gauge installed on the first officer's upper right instrument panel reading zero, assuming the oxygen shutoff valve is open. More detail on these sight gauges will be presented in the specific systems description chapters.

Behind the forward pressure bulkhead are the flight compartment and cabin. Both are accessed through the main cabin door on the left side of the fuselage. This door opens out and forward and is supported by a single forward hinge. The door can be opened from within or from outside. The door is held closed by 12 locking pins. Painted onto the two upper and two lower locking pins are position marks which are visible through 4 inspection windows on the inside of the door near the pins. These green dots indicate that those 4 pins are in their locked position. The other 8 locking pins are located on the fore and aft side of the door. They are attached to two position indicators, front 4 pins to one indicator and the aft 4 pins to the other. When these 8 pins are extended, the two position indicators (aligned white horizontal lines) are visible in a single viewing window just left of the inside door handle. When the two white lines are aligned and the 4 green dots are visible, the door is secure. The lower forward locking pin depresses a micro-switch located in its receiver when the door is secured. This switch must be closed to extinguish the "DOOR NOT LOCKED" annunciator light. This pin also depresses a plunger allowing regulated bleed air to enter the inflatable door seal and trap it there by check-valve action until the door is opened. The main cabin door can also be key locked from the outside for security.

The emergency exit is located in the toilet area on the right side of the aft fuselage. This door is the only plug door on the airplane. This door must be removed by first turning the red handle clockwise and then by pulling the door inward before tossing it out the hole. This door can be opened from the inside or from the

outside. Since rescue personnel must be able to gain access to the cabin from outside, a potential security risk exists. The only way to lock the emergency exit door to prevent unauthorized entry is to insert a locking pin into a hole near the handle on the inside of the door. A red “REMOVE BEFORE FLIGHT” flag is normally attached to this locking pin to remind the crew to remove the pin before flight. When installed, this pin prevents the outside handle from opening the door, thereby denying potential rescuers a way into the cabin. This door is not wired to the “DOOR NOT LOCKED” annunciator light due to its design as a plug door on early CJs. This door is connected to an EMER EXIT annunciator on later models. If the toilet is on the right side of this aft compartment, there is typically a 100 pound aft baggage area. If the toilet is on the left side, no baggage is allowed in the aft compartment.

Various cabin seating arrangements exist for the different models of CitationJets. Most small CJs involve one fixed seat, typically side facing and immediately across from the entry way door. Then there are typically 4 seats in a club arrangement mounted on rails can usually be reclined, rolled fore and aft and adjusted out into the aisle after takeoff to provide the occupants with more shoulder and elbow room. Since these seats essentially block the aisle when reclined or moved to the inboard position, they must be in their upright and outboard position during takeoff and landing and all ground movement. The last seat is in the toilet area and is frequently belted. A refreshment center may be located either behind the captain’s seat or behind the first officer’s seat.

The larger CJ2s and CJ3s are typically equipped with a refreshment center across from the entryway door though an option does include a side facing fixed seat there as well. Then there is a 4 place club followed by 2 forward facing seats all mounted on rails and adjustable fore and aft and laterally into the aisle.

The CitationJet fuselage is constructed as a unit and rests on top of the wing which is also constructed as a unit, wingtip to wingtip. This construction technique

Behind the toilet area is the aft pressure bulkhead. Behind this aft pressure bulkhead is the unpressurized aft equipment area. The equipment area is accessible through an aft tailcone door, the fourth door armed to the “DOOR NOT LOCKED” annunciator light. This door is hinged from the front and is secured by two

latches and a key lock along the aft edge. As with the nose baggage doors, the switch is located on the key lock. This aft equipment area contains several systems or portions thereof which support the aircraft. Some of them are:

Electrical components including the battery, generator control units and junction boxes which contain various relays, circuit breakers, current limiters and buses.

Environmental Heat exchanger and Freon air conditioner compressor and condensor. These devices cool and condition compressor discharge air before pumping it into the cabin as a source of breathable air.

Hydraulic reservoir, control valves for each of the hydraulic systems, pressure regulator, system bypass valve and associated filters, check valves and plumbing. This hydraulic reservoir is visible and serviced from outside below the right engine

Windshield bleed air and horizontal stabilizer de-ice components.

Fire bottles and associated plumbing and squibs. Each bottle is plumbed to each engine.

The tailcone baggage area is accessible through the same door as the aft equipment area. Aft baggage capacity is typically 500 to 600 pounds depending on model. A placard will be installed in all baggage compartments displaying capacity in pounds.