

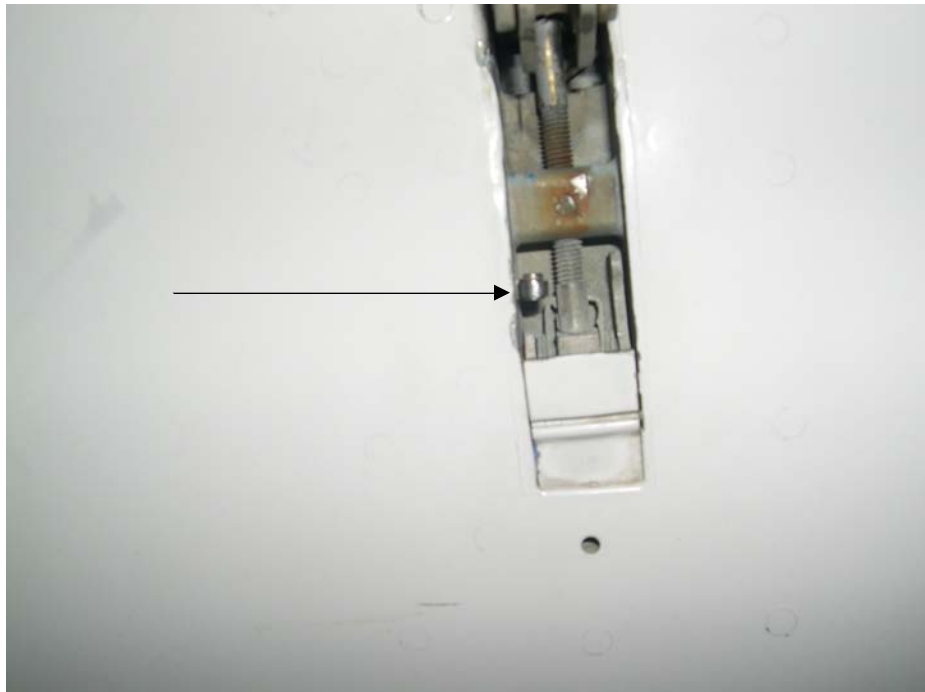
## Fuselage

The Citation fuselage is constructed primarily of aluminum. The structure itself has no design life limits. Aluminum honeycomb is used for various interior panels, including floors.

Beginning at the front, the removable nose section covers the Radar antenna, various gyros, most avionics, various computers, cooling fans and standby gyro battery. The nose section may be held in place with screws or two latches depending on vintage and modification status.

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, but there may be some variation due to avionics installed. 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. On early airplanes, these micro-switches are located on the forward latches on these doors. Switches installed on the forward latches do not notify the crew if one of the key locks is not engaged. They do notify the crew if the forward latch is not secure. On later airplanes, these micro-switches are located on the locks themselves. This switch position notifies the crew only that one or more of the doors are not key locked. The key position switch does not notify the crew of an unsecured latch. Some modified aircraft have had the key switches added, leaving the latch switches as installed at the factory, the best arrangement of all, but quite rare. On later models, the annunciator light identifies the specific door unlocked such as "BAGGAGE DOOR L or R", "CABIN DOOR" or "AFT BAG DOOR". On earlier models, the switches all report to the same "DOOR NOT

LOCKED” annunciator, meaning you must locate the offender by trial & error.



**Door not Locked Microswitch, on latch (early style)**



**Later style 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.

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 installed on manual brake equipped airplanes will have one sight gauge. Reservoirs installed on power brake equipped airplanes will have an upper and a lower sight gauge. In addition, power brake equipped airplanes will have an

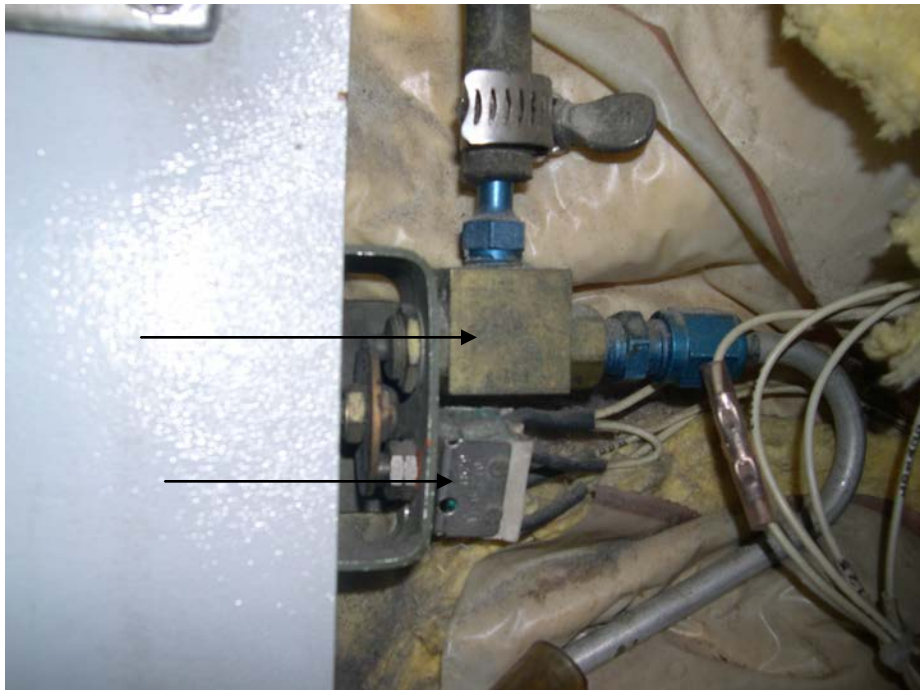
accumulator pressure gauge visible beside the brake fluid reservoir. This gauge should be inspected both before and after turning the battery switch on. The needle should be in the pre-charge range before energizing the airplane. After electrically powering the airplane, the needle should rest at the top of the green. The braking system will be covered in detail in the “Hydraulics” chapter.

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 may be located under the floor of the nose baggage compartment. If so, a green blow out disc will be located on the fuselage outside skin under the right side 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. As a variation, this bottle may have been installed in the aft equipment area. An empty bottle is also evidenced by the oxygen pressure gauge installed on the first officer’s upper right instrument panel reading zero. 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.



**Cabin door seal checkvalve, upper arrow  
and “Door Not Locked” microswitch, lower**

Opposite the main cabin entry door is the emergency exit. 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.

Various cabin seating arrangements exist for the different models of Citations. Most involve one or more fixed seats, either barrel or bench, and several seats on rails. The seats 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. They also must be positioned so that no seat will block the emergency exit. A refreshment center may be located behind the captain’s seat, behind the first officer’s seat, mid-cabin or back near the aft baggage compartment depending on cabin layout.

Behind the back seats is the aft baggage compartment, not to be confused with the tailcone baggage. This baggage area is in the pressure vessel and frequently contains the toilet as well. Typical capacity is either 600 or 650 lbs. Capacity will be indicated on a placard located in the compartment. The Citation fuselage and the stub wing are constructed as a unit. This stub wing passes under the aft baggage area with the aft spar visible just behind the back two seats. The left and right wings are each constructed as units



and attached to the stub wing with four very important bolts, one of which is pictured below and is visible from underneath the wing.



**Wing attach bolt**

Behind the aft baggage compartment 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 bottom and is secured by two latches and a key lock on the top. As with the nose baggage doors, the switch may be located either on the forward latch or 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 one or more junction boxes which contain various relays, circuit breakers, current limiters and buses.

Air cycle machine and associated plumbing. This device cools and conditions compressor discharge air before pumping it into the cabin as a source of breathable air.

Hydraulic reservoir, 4 way control valves for each of the hydraulic systems, pressure regulator, system bypass valve and associated filters, check valves and plumbing.

Windshield bleed air and wing de-ice components.

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

Elevator and rudder control cables along the floor and trim cables overhead.

Early Citations afforded an excellent view of this aft equipment area making preflight of the tailcone easy. Most CE-550, S550 and 560 series airplanes have tailcone baggage, substantially obscuring view of this area, hindering a thorough preflight inspection.

On Citations equipped with tailcone baggage, this 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.