



The Left Seat

Changes you forever as a pilot

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We all start our aviation careers with the solo pilot ritual; it is a right of passage. Flying your first passenger ranks right up there too. But the first time you are assigned as the captain of an airplane that requires a crew, even a crew of two, well, that's an important milestone in any pilot's career. Because the road to the left seat usually starts from the right, training programs tend to assume the required knowledge is gained along the way, almost by osmosis. But moving to the left seat for the first time is a huge deal and there are things you need to understand if you are to make the move gracefully. The world looks different from that side of the cockpit and there are things to do you've never done before. Oh yes, there is that thing called command. So let's get started, captain.

The World Looks Different From the Left Seat

In an aircraft that requires more than one pilot the flight controls are duplicated in both seats, for obvious reasons. That redundancy is rarely carried through on the ground and you may have never used a nose wheel tiller before. You will be tasked with navigating your large ground vehicle through

congested ramps and keeping it on runway centerline before and after each flight. You need a consistent position in the cockpit to do this.

As a newly minted captain, you hope to spend thousands of hours in the left seat so it's only natural you will want to find a position that is comfortable. But comfortable is not always optimal. Some prefer sitting lower and further aft than is prudent and others think up close and personal makes it easier to judge the landing flare. Both of these notions are the wrong approach to seat



Pilot's eye alignment indicators, from a Gulfstream G450

position. Moving the seat aft and down reduces your view of the world when it counts the most, on an instrument approach at minimums. Sitting higher and closer decreases your view of the instrument panel.

Your goal should be to position your seat so that your eyes are exactly where the manufacturer had intended. After all, they got the airplane certified for instrument flight and you can't expect to duplicate their efforts without the same eyeball position. Many aircraft have eye alignment tools for this very reason. You need to position your eyes where they need to be, even if this is less than comfortable for the rest of your body. This will pay dividends beyond an instrument approach. It is critical for getting your large airplane into and out of some very tight ramps.

The Ground Game

Before you taxi the airplane for the first time it will be helpful to know where your wheels and wingtips are as seen from the captain's seat. Remember, you can't see the main landing gear and your view of the wingtips (if you can see them at all) is not accurate. Failing to understand the difficulty here is the easiest way to end your left seat career.

You can get a pretty good idea of where your main gear are from the cockpit by learning their relationship to the limit of your vision from a consistent seating position.

1. Align your eyes to where they will be every time you taxi the airplane.
2. Have another pilot stand outside,



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abeam your eyes, with a cell phone.

3. Ask the pilot to inch sideways closer or further away from the aircraft so you can just barely see his or her feet on the ground.

4. Leave the cockpit and compare the location of the other pilot's feet to the track of the main gear. That is how much space you have between the limits of your vision from your seated position to the main landing gear.

The next time you are called upon to taxi the airplane close to the edge of pavement you will know what your margin of error is. But you also need to be aware of what the rest of the airplane is doing too, especially when making turns.

It may sound like a cliché but it is true: you must taxi the entire airplane. This means from nose to tail, and from wingtip to wingtip. Keeping your eyes focused on the center of the taxiway

and your main landing gear. A Gulfstream V's nose wheel, for example, can turn 80 deg. and the main gear are located 45 ft. behind the nose gear. If you are making a sharp turn from one 50-ft. taxiway to another, you would be wise to have your nose wheel pass (overshoot) the centerline by 20 ft. before turning. And that turn needs to be made slowly!

The 180-deg. turn demands even more planning because you can't see most of the airplane and even the parts you can see are not where they appear to be. The view from the cockpit is distorted by the thickness of the glass and this parallax only gets worse when looking at the angles required to see a wingtip. You can get an idea about the parallax by having someone stand at the wingtip while you are looking from your seated position. You might be surprised by the view. This should also remind you that when in doubt, put a person at that wingtip as you taxi.

A ground marshal can be very helpful but should not be invested with total trust. There is a light post on the general aviation ramp at John F. Kennedy Airport in New York that claims a Gulfstream wingtip every year or so because the ground marshal thinks every Gulfstream is the same and their pilots have blind faith. Even many Gulfstream pilots would be surprised to know just how different some aircraft are when it comes to making a 180-deg. turn. To an untrained eye, the Gulfstream IV and V look about the same. But each aircraft has its own, unique optical illusion. When making a minimum radius turn, the GIV's tail describes an arc that is almost a foot wider than the nose or the wingtip. Just because the nose and wingtip pass inside an obstacle doesn't mean the tail will. The GV, on the other hand, has a wing that "grows" three feet wider than the nose. (Right into that light post at JFK.)

Once you've left the chocks you need

to find the center of every taxiway, especially the narrow ones. Many pilots like to envision their right foot standing on the centerline but this might not work for you or your airplane. The next time your airplane is parked on a straight line, painted or otherwise, hop in the left seat and find a reference point on the glare shield that helps you line up. This will pay dividends on the runway too.

The Air Campaign



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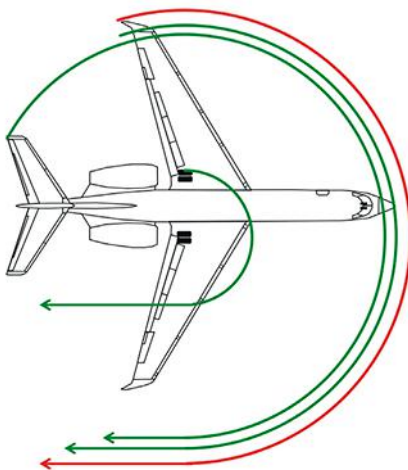
Runway centerline, as seen from the tail of a Gulfstream G450

Runway centerline is especially important for larger airplanes for obvious reasons, but also for reasons you may not have considered.

Multi-engine, transport category aircraft are certified with controllability speeds that keep the airplane within 30 feet of runway centerline following the failure of a critical engine. Being just ten feet off center could put you in the grass if an engine fails during takeoff.

Nobody knows why, but pilots who've grown up in the right seat tend to land on the left side of the runway once they've upgraded to the captain's chair. The only cure is practice. But knowing the tendency exists helps speed up the cure.

Two other left seat challenges are also improved with practice: tiller steering and braking smoothness. Both issues are a result of larger aircraft size



Gulfstream V turning diameters

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does you no good when making sharp turns; you have a lot of airplane behind you.

Your ability to make a 90-deg. turn depends on your nose wheel steering's capability and the distance between it

and weight, which translates into more inertia. You have a lot of mass behind and underneath you and it takes a lot of force to get it moving, to change its direction once moving, and to get it stopped again.

A nose wheel tiller translates a small movement in your wrist into a large movement of a lever positioned on the outside of a very large arc. You will have a few embarrassing moments until you realize you should not be moving that tiller with an eye towards making it move by certain amounts, say a few degrees or inches. Your aim should be to apply pressure to the tiller, not deflection. Practice on an obstacle-free ramp by smoothly applying pressure, evaluating the aircraft's reaction, and then adjusting. Some captains figure this out on day one; others take longer.

The first time you use the brakes on a large aircraft you are likely to think they are "grabby." They might be, but it is more likely a problem with technique. Here again you should be thinking about pressures, not brake pedal deflection. When in doubt, press the brakes as needed. But try braking earlier with just a little pressure and see how it goes. When braking after landing the brakes become more effective as they heat up. You may find that your initial brake pedal pressure results in increased braking as the landing roll continues.

Of course you want to try this braking technique for the first time on a nice, long runway. In fact, you should consider restricting yourself to long runways until you get an idea of what it takes to really stop the airplane in the distance that is promised by the manufacturer.

There is only one thing worse than braking too hard and then having to add power to make the next exit and that is not braking hard enough and running out of runway. But if you are landing on a shorter than usual runway, how do you judge distance remaining versus your normal deceleration?

Try looking for the next runway distance remaining marker and multiply that by 20 to come up with a speed that gives you a gentle deceleration, by 30 for one that means you need to get serious about stopping, and by 40 for a wakeup call that means you have to start worrying about the anti-skid.

For example, let's say you look up and see the "3" sign off the side of the runway which means you have 3,000 ft. remaining.



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Three-thousand-feet-remaining marker, Los Angeles International Airport, California

- ▶ If you are doing $3 \times 20 = 60$ kt., you are in great shape and will probably be able to coast to the end.
- ▶ If you are doing $3 \times 30 = 90$ kt., you need to get more aggressive with the brakes.
- ▶ If you are doing $3 \times 40 = 120$ kt. you really need to get on the brakes or you will have a CDM (Career Defining Moment).

Of course all of these issues are matters of proper training and a little practice. With time they can be easily mastered. The real challenge with the left seat is never mastered and will consume you as a pilot for the rest of your career flying in an airplane requiring more than one pilot: command.

Command

In the earliest days of airplanes requiring more than one pilot, there was the "first pilot" in charge and all others. Juan Trippe, founder of Pan American Airways, is credited with bringing the term "captain" to his flying boats and the name stuck. The first time you assume this role it changes you forever



Boeing Airplane Company B-314 Clipper operated by Pan American Airways

as a pilot. To understand what it is to be a captain, one must first consider the lot in life a first officer has just left. Nobody describes that lot better than Ernest K. Gann, in *Fate is the Hunter*:

"Existing in a sort of purgatory, he waits with all the patience he can muster

for the day when he will no longer be a co-pilot. Until then he must mind his manners, ever balancing the obedient against the obsequious, salvaging his pride and temper only in his most hidden thoughts. For a number of reasons, not the least of which is his eventual promotion to a captaincy, he must observe the code of master and apprentice. The rules are fixed and catholic. I am, in all eventualities, supposed to know more than he does, a theory we both secretly recognize as preposterous."

Nobody is more aware of your status as a new captain than you. That is to say, most everyone else is not aware at all unless you do something or say something that lets them know. While many pilots quickly dismiss the concept of image as merely style overriding substance, image is a part of every successful captaincy.

The goofy "one of the guys" persona favored by some copilots doesn't work for a captain. Passengers don't want to think their captain is mortal and they can be unnerved to find just how young you really are. Younger crewmembers are like passengers in some ways, they don't want to think of you as incredibly young and inexperienced. You need to act the part for them too.

Even if you aren't cool, calm, and collected by nature; acting the part can help steer you in that direction. Your fellow crewmembers will perform at their best if the captain provides a steady hand and exhibits an air of confidence and competence. Crewmembers and passengers alike need to know somebody is in charge; that somebody is you.

A good way to set the tone from the very start is to have an idea of what needs to be covered in the crew's pre-departure briefing. Sit the crew down and cover the items everyone should be **AWARE** of:

A - Aircraft status. Are there any mechanical items that will affect the trip, including cabin items? Any MEL considerations? Will any existing write ups impact the flights to come?

W - Weather conditions. Are departure, en route, destination, and alternate weather conditions acceptable? Should passengers be made aware of any possible turbulence? Will deice or anti-icing procedures be necessary?

A - Airport status. Are the planned airports adequate? Will any airport Notices to Airmen or other conditions impact the planned trip?

R - Routing. Is cleared routing as planned? Do the aircraft, crew, and

operator have the necessary licenses, permits, or other requirements needed?

E - Environmental considerations. Are cabin needs (papers, ice, catering) met?

Follow this briefing with more than just "any questions?" Ask for any comments and additions. "What am I forgetting?" can stimulate others to speak up.

Likewise, after the flight, a debrief

is essential. A good captain is human and makes mistakes, but doesn't get bogged down by them or the self-doubt that may follow. Each mistake provides an opportunity to learn and by themselves can further crew cohesion. That is why self-critique and crew critiques are so important. A good technique to finish every flight, flight-day, and trip

is to ask the crew, "What's the DEAL?"

D - Departure notes. Did anything happen from the initial crew meeting to the takeoff departure that could be improved?

E - En route notes. How did the en route phase go? What could have been handled better?

A - Arrival notes. Was the descent handled well? How about the approach? Was the approach stable?

L - Logbook notes. What needs to be written up? Are any other reports needed?

Once again you should ask for crew participation, give everyone a change to contribute to each **D - E - A - L** item. "What am I forgetting?"

A good captain takes crew resource management seriously. Revisit your initial CRM courses, armed with your new perspective. Remember a good captain sets the right tone from the very first crew briefing, listens to the opinions of the crew, delegates tasks fairly, and makes decisions that are easy to understand and implement.

A captain will spend a majority of his or her time in mentor, instructor, and facilitator roles. When decisions are routine and noncritical, the captain encourages crew participation and may even cede the decision-maker role in the interest of crew harmony and training. But the captain has the final word, especially when time is critical and the stakes are high. Yes, a captain respects the needs of the crew, but this isn't a popularity contest. Sometimes unpopular decisions are needed in the interest of safety or just to get the job done.

If you've never been a captain on an airplane that cannot legally fly without two pilots up front, the first time you strap yourself into the left seat is a momentous occasion. You can be forgiven for a case of nerves and wondering the big question that faces all new captains. "Will I be good at this?" In the back of your mind will be this underlying question: will you be a captain for the rest of your career or is this just a momentary diversion from a life of always ceding the decisions to another pilot?

The best way to smooth your transition is to study the procedures and techniques needed to fly from the left seat, and to learn from those who made the move before you. The best way to keep the position is to keep learning and understand you cannot be a captain without a crew. So get moving, captain, you have work to do. **BCA**

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