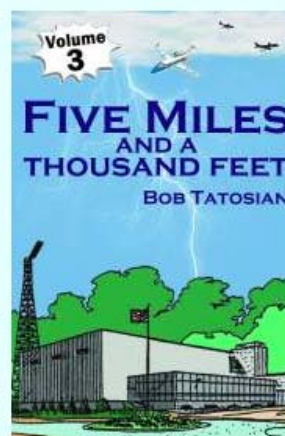
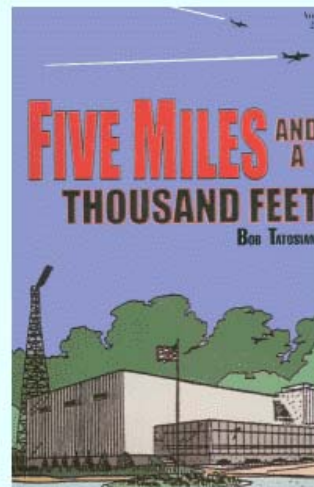
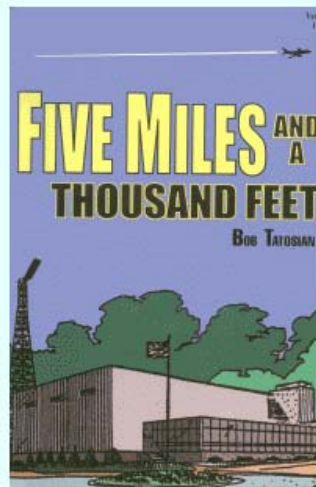


FIVE MILES AND A THOUSAND FEET

AIR TRAFFIC CONTROL...LIKE YOU'VE NEVER READ BEFORE!

You just sat down at a busy sector in an air traffic control center. One aircraft informs you that they need to divert to the closest airport available, big enough to handle their DC-10, due to a medical emergency on board. Another aircraft radios that their windshield just cracked and they must land immediately. And you just noticed, at the upper right of the radar scope, two aircraft headed toward each other, both at the same altitude.

You have eight seconds....



ALL VOLUMES NOW AVAILABLE!

Z * F * W

Fort Worth Air Route Traffic Control Center

Controlling 160,000 square miles of airspace around one of the largest and busiest airports in the world, the 375 air traffic controllers of the Fort Worth Air Route Traffic Control Center routinely handle over 2 million air traffic operations each year. ZFW controllers not only handle the air traffic to and from DFW's seven runways, but also air traffic to and from the seven other airline, business, and general aviation airports in the Dallas-Fort Worth metro-plex area. Also within ZFW, there are 6 US Air Force bases and 2 Naval Air stations that conduct flight training in aircraft ranging from helicopters, to supersonic fighter aircraft, with most of the training taking place in any of the 24 Military Operating Areas, 4 Alert Areas, 8 Refueling Tracks, or 22 Low Level Instrument Training Routes. ZFW is divided up into 7 Areas of Specialization that contain 18 Low Altitude, 23 High Altitude, and 1 Super High Altitude Sectors. Other airports within ZFW include: Dallas-Love Field, Ft. Worth, Waco, Lubbock, and Oklahoma City, Oklahoma, as well as numerous private airports and landing strips that are located on large ranches and oil fields.

The letter "Z" and a two-letter identifier for the city it serves or where it is located in physically, identify each Center.

Statistics state that aviation is the safest way to travel.

Proper phraseology is the cornerstone to air traffic control. The slightest misunderstanding can lead to serious problems.

Here is the story of one day at the Fort Worth Air Route Traffic Control Center, Z-F-W.

FT. WORTH AIR ROUTE TRAFFIC CONTROL CENTER – 9:09 A.M. / 1509Z

“There he is!” Co-pilot Jack Parker half shouted as he pointed. “Eleven o’clock, just below the horizon.”

“I’ve got him now,” Captain Holly Stanton replied as she banked the All-American MD-80 airliner to the right and away from the other aircraft.

With the MD-80’s T-CAS, (traffic-collision avoidance and warning system) continuing to sound its alarm suggesting the course of action needed to safely fly away from the intruding aircraft, Jack pressed the microphone push to talk button on the aircraft’s control yoke.

“Ft. Worth, Double-A seven fourteen is responding to an R-A (resolution advisory) that we just received. Looks like a Cessna Citation flying by just off to our left.”

Sitting at the “Frisco” low altitude sector, controller Karen Mason at first didn’t believe that the Citation had made a left turn to the south when the aircraft passed the Ardmore V-O-R navigation station. Working a number of aircraft in her departure sector situated due north of DFW, Karen had approved the “Point Out” on Citation N213LB from the controller working the adjacent “Bowie” low sector, allowing him to use a northern part of her airspace near the Ardmore V-O-R, fully expecting the Citation to continue southwest bound toward Bowie and continue flying the arrival procedures along the “Bowie Eight” arrival into the Dallas-Ft. Worth terminal area.

Concentrating on departure stream as they climbed along three different Standard Instrument Departure routes, (SID) north out of the Dallas-Ft. Worth International airport, Karen was momentarily shocked to find the Citation heading almost directly head-on toward her string of aircraft, getting dangerously close to All-American 714. Before she could respond, the Double-A pilot called on frequency with their R-A radio transmission.

“What the heck is this guy doing!” controller Scott Stephens shouted. Sitting next to Karen at the Bowie low sector, Scott had five aircraft flying into the DFW terminal area along the Bowie Eight Arrival when Citation unexpectedly turned south.

Bolting upright in his chair, his suddenly higher pitched voice, along with his first outburst immediately caught the attention of Area Supervisor Frank Wagner.

“Citation two one three Lima Bravo...verify that you are proceeding direct Bowie?” Scott said.

“Ahh...negative center...we’re heading direct...direct Alliance airport.”

“Citation three Lima Bravo, you should be heading...three Lima Bravo turn right heading two five zero, descend and maintain one three thousand. You should be heading direct to Bowie for the Bowie Eight arrival into Alliance,” Scott barked at the pilot while taking a quick glance at the Citation’s flight progress strip. The routing on the strip definitely showed that the aircraft should have been flying the Bowie Eight.

As the Citation pilot read back the clearance, Scott was visibly angered, waiting to jump on the pilot as soon as his read-back of the clearance was completed.

“Citation three Lima Bravo, traffic at ten o’clock and six miles, an MD-80 climbing through your altitude.”

Each time he made a radio transmission to the Citation, or to other pilots in the sector, Scott let out a few choice words regarding the Citation pilot, and the apparent serious mistake that he had made.

“What an idiot...what moron thinks he can fly direct into one of the busiest terminal areas in the world...no wonder he’s flying a “Near-jet...did the ‘snitch’ go off?”

(In each air route traffic control center, there is a computer program that immediately warns supervisory personnel if two aircraft lose vertical or lateral separation. Since it ‘tells’ on the controller immediately, it has been dubbed the “snitch” since its inception.)

Standing behind Scott, Frank listened as he also watched the aircraft on the radarscope. He looked over at Karen, who was still busy with the aircraft in her sector.

The telephone at the Supervisor’s desk suddenly rang.

Walking to the desk, Frank answered the phone after reading that the caller I.D. indicated the call was from the Area Manager In Charge at the Watch Desk.

“Frank, this is Brian at the Watch Desk. I’ve got a snitch between November two one three Lima Bravo, and Double-A seven fourteen.”

“I overheard part of it just before you called,” Frank replied. “Let me call you back after I get more information from the controllers, but from the initial sounds of it, it sounds like a pilot deviation.”

CITATION N213LB – 9:12 A.M. / 1512Z

Flying alone in the small business jet, Craig Norton was more concerned about how he may have screwed up than how close he had come to the MD-80. Delivering the 1978 Citation 500 to the completion shop for a new interior so far had been uneventful. A qualified pilot rated for the only model business jet that can be flown with just one pilot, Craig was hired by the aircraft’s new owners to ferry the empty aircraft to the Alliance airport just outside Dallas, Texas. Arriving at the Walnut Ridge, Arkansas airport earlier and signing the necessary papers, Craig filed a simple IFR flight plan, requesting a mostly direct routing to Alliance. After take-off, Craig recalled that Memphis Center had re-routed him twice, once around the “Shirley-1” Military Operations Area, (MOA) then back on his original flight plan. Everything had gone smoothly until the turn at Ardmore.

“Citation two one three Lima Bravo, Ft. Worth,” the controller’s voice suddenly broke his thoughts. “I have some information for you along with a telephone number when you are ready to copy.”

“Go ahead,” Craig said, suddenly feeling his mouth go dry.

“You have been involved in a possible altitude and route deviation at one five one zero Zulu. You may call the Ft. Worth Quality Assurance office at the following number when you land for further information...”

After writing down the telephone number, Craig Norton suddenly found that his heart was pounding hard in his chest.

ZFW QUALITY ASSURANCE OFFICE – 9:20 A.M. / 1520Z

Putting the report that he was reading down on the desk, Pete Jefferson reached over and picked up the telephone. Seeing that the call was coming from the Watch Desk, Pete had a feeling that the call was not going to be good.

“Quality Assurance, Jefferson.”

“Pete, this is Brian. We had a snitch between a Citation and an airliner over Ardmore. On the surface, it sounds like a pilot deviation...the Citation pilot made the wrong turn on the arrival.”

“OK,” Pete replied as he grabbed a pen and notepad. “How close was it?”

“My readout shows four point three miles and eight hundred feet.”

Pete wrote down the mileage and asked for more preliminary information, including the names of the controllers involved.

“I’ve had the controllers pulled from the sector, and they are heading up to the union office to write their statements. I did tell Frank Wagner to find out if they wanted to request trauma leave,” Brian continued. “But they both seem to be OK.”

“Alright,” Pete said. “I’ll have the data readouts from the computer sent up and I’ll pull the audio tapes. When Scott and Karen come down from the union office, give me a call and I’ll meet you all in the conference room. By they way, did anybody say anything to the pilot?”

“Yeah, Scott read him the standard deviation notice and gave him the Q-A telephone number. But, you know how that goes. They rarely ever call.”

Pete and Brian finished the call. Pete fell back into his chair and looked out his office window. A few seconds went by before he opened one of his desk drawers and pulled out and started to fill out a “System Error / Pilot Deviation” paper checklist.

N213LB – 9:45 A.M. / 1545Z

Taxiing the Citation to the east side of the Alliance airport and following the lineman’s directions, Craig parked the aircraft adjacent to the hangar where the interior

work was to be done. After shutting down the engines, Craig sat back in the captain's seat and took a deep breath. As the engines and instrument gyro's wound down, Craig stared at the Ft. Worth Center telephone number that he had hastily scribbled down on one of the local instrument approach plates.

"Crap," he said aloud.

Doing most of his flying around his native central Wisconsin area, this was his first time flying a Citation around the Dallas-Ft. Worth area. Flying since the age of fifteen, friends had joked recently at his thirtieth birthday that he had now been flying for half of his life. Still waiting for that big break, Craig had accumulated close to four thousand hours of flight time as a flight instructor and as an overnight cargo delivery pilot. Using his own money, Craig paid for and obtained his Citation type rating two years ago, and was able to get the occasional job delivering the small business jet for various owners and companies who needed his services, hoping that the jet time in his logbook would help in getting his dream job with a major airline. A problem with Center and the FAA would not help in realizing that dream.

There was a rap on the aircraft's door. Craig looked around and spotted the representative from the completion shop as he stood outside, waiting for Craig to turn the aircraft over to him so that his company could begin their work.

Grabbing his flight case and tidying up the cockpit area, Craig opened the door and greeted the rep.

"Hi. I'm Bill. Glad to see you made it OK," the rep said.

After taking a minute to stretch and talk about the flight, Craig and Bill walked to the office to complete the last minute paperwork.

"I'll have one of the guys take you to DFW in the courtesy car as soon as we're done," Bill said.

"Before I do that Bill, I have to make a telephone call," Craig replied. "I have to call Ft. Worth Center...they want to ask me about something that happened during the flight."

"Nothing serious, I hope."

"Me too," Craig said trying to muster a smile.

When the paperwork was done, Bill showed Craig into a small private office and closed the door as he left. Craig stared at the telephone. After four thousand hours of

flying, he had never had any problems with ATC. He had always stressed to his flight students to be exact, be extra careful, and to always question a clearance if it didn't seem right. Craig searched his mind, trying to recall if he had missed something. What did he do wrong that would make them say that he was involved in a possible deviation.

“Crap.”

He picked up the telephone and started to dial. He had punched four numbers before he replaced the handset and hung up the phone. Leaning forward, Craig brought his hands to his face and took a deep breath. Picking up the handset, he started to dial again. This time, he managed five numbers before hanging up again. Reaching for his flight bag, Craig took out a pen and a small pad of blank paper and placed them on the desk.

The FAA can wait, Craig thought to himself as he jotted down all he could remember about his flight from Walnut Ridge to Alliance.

ZFW – 10:00 A.M / 1600Z

Carrying the computer papers that contained the digital readouts, Pete was the last person to enter the conference room. Scott, Karen, and Brad King, the union rep, were all seated at the table. Due to other situations in the Center's airspace, Pete would also act as the Center's management representative initially. If there were any problems, or the investigation showed any serious mistakes from Scott or Karen, one of the Area managers would take over.

Pete opened the continuous sheet computer form and laid it out on the table. On the sheet, a series of X's and numbers appeared, each representing the radar targets for the two aircraft involved, as well as their altitude readouts. On another sheet of paper, was the typewritten transcript of the voice communication.

“Well, from the sounds of it,” Pete said. “Everything appears to be routine as far as we are concerned. The closest the aircraft got was four point one miles and six hundred feet. The Point Out was done, the clearances were all correct, and the flight plan that we have on the Citation showed that he was supposed to fly over Ardmore direct to Bowie, and

then fly the arrival into Alliance. For some reason, he turned south over Ardmore and right into the face of the Double-A MD-80.”

“Have you heard from the pilot?” Brad asked.

“No,” Pete replied. “We rarely hear from them, even after we ask them to call. After we get the package done, we’ll turn it over to the General Aviation District Office (GADO) for them to follow up on with the pilot.”

“What will happen to him?” Karen asked.

“It’s up to them, according to what they find out from the pilot. If they find out it was just an honest mistake, like he just dialed in the wrong radial on the V-O-R, they’ll maybe put something on his record, or give him a warning. If they find out that he doesn’t know why, or he is belligerent, they may start some sort of enforcement action that could call for more flight training. If they find real problems, he could even lose his license.”

“So, as far as we’re concerned, we’re clean, right,” Brad asked.

“As of now, I don’t see problems on our side as far as Scott and Karen are concerned.”

“OK, I guess that we’re done here,” Brad said getting up.

Scott, who was silent during the meeting got up and headed for the door. “Well, as far as I’m concerned, the pilot is an idiot,” he said as he left.

Pete looked at Brad, who half smiled and waved. He waited for Karen to leave before he turned toward Pete. Allowing the door to close, Brad spoke.

“That was the first time he’s been involved in something like this,” Brad said. “As much as he’s acting like it’s no big deal, I think it shook him a little. Let him blow off a little steam and settle down a bit. I’m going to tell Frank to keep an eye on him and if he still seems to be upset, I going to tell him to take a day or two of trauma leave.”

Pete nodded as Brad talked, agreeing with what he had to say. Over the course of his twenty-three years, Pete had seen a few “System Errors,” and knew how they could affect air traffic controllers, regardless of their experience. Some let it roll right off their backs, while others have had a hard time returning to the radarscopes. Pete ended the meeting, saying that he would let Brad know if he heard anything from the pilot before the day was done.

Letting the door close, Pete sat in one of the chairs and looked down at the papers. He thought back to the one system error that he had almost sixteen years ago when he allowed two aircraft heading into DFW get too close.

With ten aircraft being sequenced on the arrival route, each one was following the next with no more than six miles between any of the aircraft. It was a perfect “string of pearls” as he used to call them. At the front of the string, the second aircraft slowly overtook the first aircraft, getting as close as four miles before Pete took corrective action. A smile came to his face when he recalled letting his bravado get in the way when, asked during the investigation by his Area Manager why he didn’t take care of the situation sooner, he replied: “Because it would have been a waste of my talent and their gas.”

Not scoring any points with that statement, the Area Manager ordered that Pete would have to have an additional ten hours of training with a supervisor plugged in with him and monitoring his performance before he would allow Pete to be re-certified on the arrival sector.

This one however, was different, much different. When the Citation made the unexpected turn, both aircraft were head-on and closing rapidly. That would make anybody’s heart skip a beat. He knew that having Brad keep an eye on Scott for the next few hours was a good decision.

A short time passed as Pete gathered up the papers and headed down to the Quality Assurance office. Arriving at his desk, a small clock, its numbers flashing, indicated to Pete that it was time for him to take his mid-morning medication. Formerly an avid softball player, Pete suffered a serious collision on the base-path during a game last summer. The collision aggravated an already existing knee injury, which caused him considerable pain, making it difficult to walk more than a short distance without having to stop and sit down. After several surgeries, the doctors could repair the damage to the knee, but could not alleviate the constant pain. Because of that, Pete had to take a prescribed pain medication several times a day, which disqualified him from working live air traffic. Fortunately, a position opened up in the Quality Assurance department when an older controller retired, and Pete was transferred to Q-A.

Downing the medication, Pete was just beginning to look for the GADO telephone number when his telephone rang.

“Ft. Worth Quality Assurance, Pete Jefferson.”

“Hello. This is Craig Norton, pilot of Citation N213LB. I was asked to call your office when I landed.”

“Hello,” Pete replied. “I’m very glad that you called. I’d like to ask you a few questions, if you don’t mind.”

ZFW NORTH AREA - 10:23 A.M. / 1623Z

All of the sectors were busy when Scott and Karen returned to the area. As both controllers retrieved their headsets, Brad stopped at the Supervisor’s desk and spoke to Frank Wagner.

“It looks like the Citation pilot screwed up and Q-A is going to file it as a pilot deviation. Scott and Karen both said that they were OK, but keep an eye on them for a while. Scott seemed a bit tense upstairs.”

A controller and supervisor with close to thirty years experience, Frank knew exactly what Brad meant. He too has seen how having a couple of aircraft get too close can affect an air traffic controller.

Frank and Brad talked for a short period of time, each taking an occasional glance at the two controllers as they each plugged into different sectors in the Area.

“I’ll try not to be too obvious, but I’ll come back in about fifteen to twenty,” Brad said. “Page me if necessary, but I’m sure that they’ll be OK.”

Frank acknowledged Brad and went back to his duties. Not only would he have to eavesdrop on how Scott and Karen were doing, but he also had to keep his eyes and ears on what was happening in all of the sectors, keep monitoring the flow of air traffic in the area, as well as being ready to respond to any potential problems. He knew his controllers and their abilities, and wasn’t too concerned. Frank took a short walk around the area, taking a look at each of the sectors before returning to his desk and sitting down.

In Q-A, Pete was writing down some of the information that Craig had given him. In the back of his mind, he felt bad that he would have to inform Craig that he would have to submit his findings to the Dallas GADO office.

“Is there anything else you wish to say about this incident?” Pete asked.

“There isn’t much else. I thought I was doing what I was cleared to do” Craig responded. “In fact, from what the controllers at Memphis Center said to me, as far as I’m concerned, I did exactly what I was cleared to do.”

“Why would you think that?” Pete asked somewhat puzzled.

As Craig explained, Pete suddenly sat upright in his chair.

“He said *what?* Give that to me again,” Pete said as he hastily scribbled down the new information. “Are you sure that is what he said?”

After Craig reiterated what the Memphis controller said, Pete leaned back in his chair.

“Well Craig, that changes things...completely changes things. Let me have your home and cellular telephone numbers, I am going to get back to you later today.”

Pete terminated the telephone call and stared down at the paper in front of him.

Reaching for a list of telephone numbers, Pete found the number that he was looking for and dialed.

“Memphis Center, Quality Assurance, John Norton.”

“John, this is Pete Jefferson at Ft. Worth. We had a possible pilot deviation here and I need you to pull a tape on...”

Pete gave John the information that he needed, as well as giving him preliminary information about the situation that the Citation was involved in.

After hanging up, Pete again leaned back deeply in his chair. “This completely changes everything,” he repeated.

KANSAS CITY INTERNATIONAL AIRPORT / 10:45 A.M. / 1645Z

Except for the R-A near Ardmore, Double-A flight 714 to Kansas City was uneventful. After the aircraft had parked at the gate, co-pilot Jack Parker remained in his seat to reconfigure the aircraft’s navigation system for their return flight to DFW while

Captain Holly Stanton stood in the cockpit doorway, saying ‘good-bye’ and ‘thank you’ to each of the fifty-four passengers as they left the aircraft. From the best that she could tell, none of the passengers had even known that they had come close to another aircraft on their initial climb out of DFW. When all of the passengers had de-planed, Holly spoke to several of the flight attendants before returning to the cockpit.

“Jack,” Holly said standing just inside the cockpit doorway. “I’m going to head down to operations and call Ft. Worth Center to see if we need to do anything about that R-A.”

“We do have to fill out a company form,” Jack responded.

“Yeah, I’ll do that when we get back to DFW, but I want to make sure that there are no surprises when we land.”

“If you hang on a few seconds, I’ll go down to operations with you. I’d like to double check the weather before we go.”

A short time later, the two pilots left the aircraft and walked to All-American Airlines MCI operations office.

ZFW QUALITY ASSURANCE OFFICE – 11:00 A.M. / 1700Z

“Yeah, that’s it...that’s just what the Citation pilot said,” Pete said. “Can you fax me the communications transcript and e-mail me the audio portion. I will need a cassette tape sent to me as soon as you can get it in the mail, also.”

Pete finished up the telephone call from John at ZME. A few minutes later, the fax machine came to life and the requested pages of radio transcripts were on their way. As they were printing, Pete called the cartography department and requested a series of maps that would help explain what had happened, followed by a telephone call to the All-American Airlines chief pilot’s office. After making sure that the fax pages had all printed successfully, Pete spent a short time putting all of the needed papers together. Satisfied, he called the North area and told Frank Wagner that he would like to see Scott, Karen and Brad in the conference room at noon.

“And Frank,” Pete said just before he almost hung up the telephone. “Make sure that you tell them that they did nothing wrong. In fact, according to the current interpretation of the rules, everybody was doing exactly what they were supposed to do.”

ZFW CONFERENCE ROOM – 12:05 P.M. / 1805Z

“Hi folks, sorry I’m late,” Pete said entering the room carrying a load of maps and papers. “I had to take a telephone call from the pilots of Double-A seven fourteen. Hi Frank, I’m glad that you were able to make it,” he added as he walked past Frank Wagner. Stopping at the end of the table, Pete placed the lot he was carrying down and glanced over at a nearby blackboard, happy to see that there was a decent sized piece of chalk on the ledge.

“OK everybody, you’re going to love this one,” Pete said as he handed out copies of the radio transcript to everyone in the room.

“The beginning of the transcript actually starts in Memphis Center when Citation three Lima Bravo is climbing out of Walnut Ridge,” Pete said as he opened up an airways sectional chart. “Notice what the Memphis high altitude controller says when he clears the Citation direct Ft. Smith.”

A minute passed before anyone spoke.

“Yeah, so what?” Scott said.

“Take a look at this,” Pete said as he slid copies of the Citation’s flight plan across the table to everyone.

“Yeah...OK. Still, so what?” Scott again replied.

“Oh, geez,” Frank suddenly said. “I see it.”

“Yeah, I see it too,” Karen also said.

“What am I missing,” Scott said. “Looks like a normal clearance to me.”

Walking to the chalkboard, Pete told Scott to follow along with the map as he drew out what happened on the chalkboard.

“Since the pilot was leaving very early in the morning, he filed a flight plan with Jonesboro Flight Service from Walnut Ridge to Alliance sometime last night before

going to bed. At the time, he and Flight Service did not know about the schedule change to the 'Shirley-1' M-O-A." (Military Operations Area) He filed a perfectly legal flight plan of: direct Ft. Smith; direct Ardmore, direct to, and landing Alliance. The Memphis low altitude controller knew from experience that the Citation should not fly that route, not only because the flight path would take him right through the DFW departure corridor in the Frisco sector, but it would probably also conflict with the 'Hog' and 'Ryers' Military Operations Area's which were NOTAM'd active. (Notice to Airmen) So while the aircraft is climbing out, he radios the Citation with a new clearance, amending the clearance to: "Direct Razorback VOR, direct McAlester, direct Ardmore...Bowie and the Bowie Eight Arrival." After the pilot correctly reads back the clearance, the Memphis low altitude controller enters the amended flight plan into the computer, and hands the guy off to the high altitude controller. Now, everybody is happy, except the pilot. After the Citation pilot enters the changes into his navigation system, he sees that he now has to fly another hundred miles or more. So naturally, he asks for a shortcut as soon as he's clear of Shirley. When the aircraft is clear of the western boundary of the MOA, the Memphis high altitude controller clears the Citation: "direct Ft. Smith, *flight plan route*."

Pete stopped, hoping that Scott would understand.

Frank gave out a laugh when he heard Pete repeat the clearance.

Scott looked around, his face slightly flushed. "What...I still don't get it."

"This is one of the biggest "Gotch ya's" in all of air traffic control," Pete said. "It's confusing to explain, simply because it just doesn't happen that often, and it's really a question of interpretation. According to the 7110.65 rulebook," when an aircraft is taken off its assigned route and subsequently re-cleared back on course, ATC instructions are supposed to convey that there are no further changes from the previously cleared route. The book lists examples like: 'cleared direct XYZ, then as previously cleared,' or 'rest of route unchanged,' or even just 'cleared direct XYZ.' That route is the ATC flight plan route."

Pete stopped for a few seconds to make sure Scott understood.

"Now, from the Citation pilot's perspective, his routing was changed by Memphis Center to the Razorback routing by the low altitude controller. When the next controller, the guy working the high altitude sector, cleared him via "direct Ft. Smith, flight plan

route,” after he passed the Shirley MOA, the controller *meant* the ATC flight plan that was in the air traffic system computer, which is the same one given to him by the low altitude controller and was printed on the flight progress strip. However, to a pilot, the words ‘flight plan’ can mean something completely different. In this case, the Citation pilot hears ‘flight plan route’ and thinks the controller meant the one that he filed the night before with Jonesboro Flight Service. Look on the transcript. He even asks, “Verify direct Ft. Smith, *flight plan route?*”

Pete gave Scott a few seconds.

“Look at the Memphis controller’s response,” Pete continued. “That’s what I said...Ft. Smith flight plan route!”

Pete gave Scott a few seconds before continuing. “I’m sure that when we hear the tape, there will probably be a little edge to the controller’s voice. So the pilot doesn’t want to upset the controller even more, so he reconfigures his navigation system and does what he was told.”

“How can the pilot expect to fly something other than what he was cleared to do?” Scott said.

“Well,” Pete replied, “most pilots know that they are supposed to fly the routing that they received from ATC, regardless of what route they’ve filed. But, every now and then, usually depending on the pilot’s experience, a pilot will interpret the term ‘flight plan route’ to mean the flight plan that he filed with Flight Service. So if he receives the clearance ‘flight plan route,’ he reverts to his filed route.”

Scott brought his hands to his head and rubbed his face. “You’ve got to be kidding me,” he said exasperated.

Frank laughed. “Because it is so ambiguous and can cause possible problems, like this one, the book tries to avoid this by giving specific examples of the correct phraseology. If you take a look at the specific section, it doesn’t even mention the phrase “flight plan route.”

“So when the Citation flies over Ft. Smith,” Pete continued. “The aircraft continues on the *pilot’s* flight plan route, direct to Ardmore. He flies very close to McAlester, so nobody is alarmed that anything is wrong. Scott, you and Karen are doing your jobs based on what you see on the flight progress strips and on the radarscope. You call Karen

with the 'Point-Out,' and both of you are expecting the aircraft to fly the Bowie Eight Arrival when he flies over Ardmore. But, because of the change that no one is aware of, the Citation makes a left turn at Ardmore and conflicts with the MD-80."

"Did you explain to the pilots what happened?" Frank asked.

"Yes," Pete replied. "That's why I was late. I was on the telephone with the Double-A pilots and I have to call the Citation pilot when he gets home later this evening.

"What happens now?" Karen asked. "Who gets charged with the error?"

"Well, this doesn't happen that often, in fact its very rare. There are usually enough checks and balances to stop this from happening. If Scott had put the aircraft on a vector for sequencing for example, he might have found out that the pilot was on a different routing when he cleared him toward the arrival. If the pilot had questioned the Memphis controller a second time, the incorrect route might have been caught. So, actually the System gets the error, simply because no one actually did anything wrong. The pilot did what he was instructed. You and Scott did nothing wrong because you were acting on the best information that you had available. The Memphis controller technically did nothing wrong because there is no rule prohibiting the use of the term "flight plan route."

"So this guy, the Citation pilot gets off the hook because of this?" Scott asked.

"Well, he's off the hook as far as we're concerned. His explanation will hold up to any further inquiry from GADO or us. But, I would say that the whole situation for him was a heck of a learning experience. I'm positive that being involved in a possible pilot deviation and the threat of having enforcement action taken against him has made an impression on him. I would like to think that in the future, if he ever receives another clearance like that, he'd question it. That's what we tell all pilots...if they ever receive a questionable clearance, or don't understand it, ask the controller to verify the clearance. By doing that, hopefully we'll prevent situations like these from happening again. As far as we're concerned, I hope that you see the benefits of using correct phraseology all of the time," Pete responded.

The controllers bantered about the situation, as well as several other situations for a short time afterward. When they were done, Scott, Karen, and Brad left the conference room and headed back to the control room. Frank stayed and talked to Pete for another minute before he too, headed back to the control room. Pete Jefferson gathered up the

maps and transcripts, and eventually made his way to his desk. Even though the investigation was almost officially closed, he still had a lot of paperwork to do regarding the incident.

Leaning back into his chair, Pete stared out his window. A smile came to his face when he thought how incidents like these have contributed to the fact that the rulebook that controllers use had steadily become thicker over the years as weaknesses in the system were discovered. The smile disappeared when he realized how many times throughout the day that people, the pilots and controllers along with their words and machines, had to perform correctly in order to move thousands of airplanes safely through the sky. He also thought of how fast something could go wrong if the words or the machines failed. Incidents like today's showed how quickly a minor misunderstanding could lead to a near disaster.

Pete thought about the unceasing quest for perfection in air traffic control. With aircraft moving hundreds of miles per hour and the constant rapidly changing situations, the continual challenge to be right 100% of the time is what made the job so unique. What other job in the world carried such demands? Staring blankly out the window, Pete now realized how much he missed working traffic. Sure there were frustrations and problems, but nothing compared to the adrenaline rush of a sector full of aircraft. A light on his desk caught his eye. With his alarm clock flashing, Pete yearned to be sitting again in a sector in the control room of ZFW.

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