



Higher Living

This quarter we start off with an article written by EFTS CFI, Christopher MacDonald. He had an opportunity to fly with the Bandit Flight Team and has written a story about his experience.

At the airport we are in the process of replacing the engine in N711FL which is why it is currently not available. Should return soon.

Mostly it has been a quiet quarter and with travel getting back to normal I'm ready for some restaurant flying. I have already been to Simply Suzanne's restaurant at KMTV twice and made one trip to the Outer Banks Brewing Station near KFFA for a burger. I have a second flight planned for there already with my nephew. High on my list is the Pic-n-Pig restaurant and the rebuild there is well underway with an expected reopening in the

summer. I owe several of my students a free lunch there.

Last quarter, on February 11, we mourned the death of Eric Kendall, an EFTS CFI. He was stricken with cancer and was taken from us too quickly. Many of you knew him or were one of his students. Looking through the Hall of Fame I see the faces of the students whose life he touched. He was very important to our organization and while we miss him as an instructor, I also miss him as a friend.

Come fly with us.

- David Williams,
President EFTS

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|-----------------------------|----------|
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| Redbird TD2 | \$40/hr |

A Sortie with the Bandits

-Christopher MacDonald
EFTS CFI, CFII, MEI

March 19th, 2022

Have you ever caught yourself being John Madden at an airshow and commentating to your noncertificated spouse, kids or friends about every airplane, aircraft maneuver and formation that flies over? “Honey that’s a four-ship right echelon, the lead #1 is about to break left with 5 second spacing, then #2, #3 and #4 to follow on downwind. The lead #1 will be landing on the “cold” right side of the runway and the last guy #4 will land in the “hot” left side...”



This brings me to KGWW aka Fighbertown, NC on a nice turbulent spring day where I was invited to practice with the

Bandit Flight Team. Much like any team sport, practice is essential to the success on game day. Formation flying is no exception to the rule. It requires the proficiency and dedication we all need to maintain as pilots. The practice started off with the Lead Pilot giving a thorough preflight briefing to his wingmen. Alike any nuance in your flying experiences, the dialogue was a steep learning curve for the mission objective. We then proceeded to the ramp to commence our flight of four sortie.

Take note: any group of more than one aircraft is called a “flight.” A flight may consist of two aircraft, 16 aircraft or 116 aircraft, all flying with respect to one another. Flights are made up of “elements.” An element consists of a flight leader and a wingman. All flights are made up of elements. There are never more than two aircraft in an element. For instance, a flight of four aircraft is made up of two elements, a flight of six aircraft is made up of three elements, and so on.

I flew in the #1 which is the flight leader position. The flight leader is responsible for being the most forward pilot in the formation and leading the team through radio communication, hand signals, aircraft signaling,

formation configurations, breakout and timing. The lead’s other responsibilities are to debrief the mission, train new formation pilots, endorse Formation Proficiency Reports (FPR) and recommend pilots for wing and lead check rides.

After practicing all the formations, we headed back to KGWW in a right echelon formation and once over the field broke off in 5 second intervals to downwind. The lead lands on the “cold” (right) side of the runway and #4 lands on the “hot” (left) side.



The Bandit Flight Team is one of our nation’s most active flying formation teams participating in over 50 events per year. Members of the team span from retired military fighter pilots, active airline pilots, business executives to pilots that just love to

fly. When flying the pattern at TTA on NCSU football game days, you may have heard “Bandit check go 1... 2...3...4...5...6” on CTAF. Those are the Bandits forming up to do a flyover at Carter Finley Stadium.

The Bandit Flight Team performs at various events including all the NC State football games, NASCAR events at The Charlotte Motor Speedway, Martinsville Speedway and Dover Speedway, The Durham Bulls games, the Raleigh Christmas Parade and Rally for the Cure. They’re available for national anthem flyovers, charity events, Missing Man Formation for military ceremonies, as well as grand openings, VIP or corporate events, and most notably Lead Pilot Bob “Spock” Ingle did our gender reveal flyover at Wayne Executive Jetport. Queue the pink smoke!

After the experience of a lifetime, all I could say was... “Well, ‘Spock’...you just got the trophy for the two best flights I’ve ever had!” Enough said.

Runway Hotspots

A hotspot is defined as a position on an airport taxiway or runway where a potential risk or a history of such risk

exists. It’s a location where things can become confusing as to where you are going on the ground. These spots are especially likely to create a hazard in limited visibility conditions.

As of March of 2022, there are 5 airports in North Carolina with published hot spots. Charlotte has three, Greensboro has one, Hickory has one, Raleigh-Durham has one and Wilmington has one. They are depicted on the airport taxiway charts. When flying into these airports you should acquaint yourself with the locations of these hot spots so they will not confuse you as you taxi. Descriptions of those hot spots appears below with the charts appearing in an Appendix to this newsletter. The hot spots on the charts are designated as HS in a brown box. Abbreviations appearing below are as printed by the FAA.

CHARLOTTE (Appendix 1)
CHARLOTTE/DOUGLAS INTL (KCLT) HS 1 Confusing intersection due to the convergence of Twy R, Twy A, Twy C and Twy C9 along with grass island.

HS 2 Pilots exiting Rwy 18C–36C on Twy S for either Twy E or

Twy F mistakenly turn left on Twy E5 and reenter the rwy.

HS 3 Maint vigilance northbound on Twy C approaching Twy C10 twy signs not aligned, allow for wingtip clnc with tfc exiting Rwy 36R at Twy C10.

GREENSBORO (Appendix 2)
PIEDMONT TRIAD INTL (KGSO)
HS 1 Maint vigilance confusing twy, turn rgt onto Twy K6, only cargo N of Twy K6

HICKORY (Appendix 3)
HICKORY RGNL (KHKY)
HS 1 Maint vigilance confusing int, Rwy 01–19 hold bar close to Twy A3.

RALEIGH/DURHAM (Appendix 4)
RALEIGH–DURHAM INTL (KRDU)
HS 1 Intersection of Rwy 05R–23L and Twy C.

WILMINGTON (Appendix 5)
WILMINGTON INTL (KILM)
HS 1 Maintain vigilance confusing int, close proximity to rwy.

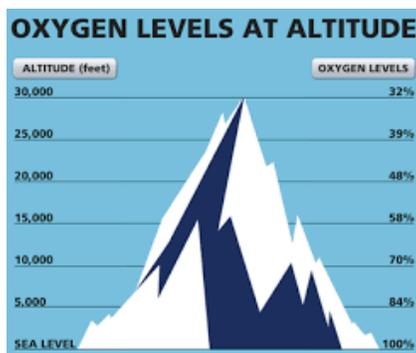
For hot spots at other airports in other states you can search from here:

https://www.faa.gov/airports/r runway_safety/hotspots/hotspots_list/

Effects of Altitude on Humans

The human body can perform best at sea level. At that level the partial pressure of oxygen is adequate to allow it to bind properly with hemoglobin, the red pigment in red blood cells. By doing so the blood can carry oxygen to everywhere it is needed in the body.

When we increase our altitude the percentage of oxygen in the air remains mostly constant but the partial pressure of oxygen decreases at an exponential rate. At 16,000 feet the pressure is half that of sea level.



At 5000 feet night vision is affected first and can lead to mistakes in reading or understanding instruments. This early level of hypoxia can be a surprise because we all feel we are at peak efficiency.

At 10,000 feet, reduced ability to learn new tasks can be

measured. Night vision is degraded by 15-25 percent. Blood oxygen saturation is probably down to about 90%. Your judgement is compromised.

As the partial pressure of oxygen in inspired air continues to drop with increasing altitude, signs and symptoms of hypoxia become more evident, and include loss of peripheral vision, skin sensations (numbness, tingling, or hot and cold sensations), cyanosis, euphoria, and eventually unconsciousness at higher altitudes.

The regulations state that for flight above 12,500 feet for more than 30 minutes requires pilots to use supplemental oxygen. For flight at 14,000 feet an above supplemental oxygen is required.

Be careful at higher altitudes, especially at night, and don't allow the effects of hypoxia to affect your judgement.

Flying After Diving

First, I should make the disclaimer that I am definitely not a diver...not even a swimmer. My sister-in-law was

an occasional cave diver which I found especially terrifying. So, I doubt I will have to follow the advice contained here but perhaps you can.

Diving places your body at a atmospheric pressure that is greater than sea level pressure. This affects how nitrogen is dissolved into the blood. You have certainly heard of the bends which result from the expansion of that nitrogen in the blood when you ascend too quickly from a deep dive.



The FAA's Airman's Information Manual (AIM) offers a small section entitled "Decompression Sickness After Scuba Diving" that indicates "a pilot or passenger who intends to fly after scuba diving should allow the body sufficient time to rid itself of excess nitrogen absorbed during diving. If not, decompression sickness due to evolved gas can occur during exposure to low altitude and create a serious in-flight emergency."

It follows, that aviators should wait at least 12 hours prior to flying to altitudes up to 8,000' (MSL) if a dive has not required a "controlled ascent" (non-decompression stop diving) and at least 24 hours after diving in which a "controlled ascent" (decompression requiring) is required. Any flight above 8000' Mean Sea Level (MSL) should be delayed until at least 24 hours has elapsed.

Some will recommend that divers take a day off between the last dive and a flight as an extra safety margin. Most divers will use a modern dive computer which will calculate the time to wait prior to flying.

If you are just snorkeling at the surface, then there won't be a major concern with nitrogen but if you are a scuba diver you should heed the warnings. Spend the day between your last dive and flying enjoying the sights on the surface.

OTC Drugs May Not be Allowed

There are many drugs that we should not take prior to flight and some for many hours prior to flight. Appendix 6 is an FAA chart of many of those drugs.



If the drug package says "may cause drowsiness" or "do not operate machinery" it is a good bet that the drug should not be taken during flight.

In addition to the list in Appendix 6 the FAA publishes a guide to Aviation Medical Examiners which lists drugs, which if being currently taken, will prevent you from holding a medical certificate. I have included that list here.

Do Not Issue. AMEs should not issue airmen medical certificates to applicants who are using these **classes of medications** or medications.

- **Angina medications**
 - nitrates (nitroglycerin, isosorbide dinitrate, imdur),
 - ranolazine (Ranexa).
 - **Anticholinergics (oral)**
 - e.g: atropine, benztropine (Cogentin)
 - **Cancer treatments** including chemotherapeutics, biologics, radiation therapy, etc., whether used for induction,
- "maintenance," or suppressive therapy.
 - **Controlled Substances** (Schedules I - V). An open prescription for chronic or intermittent use of any drug or substance.
 - This includes medical marijuana, even if legally allowed or prescribed under state law.
 - Note: for documented temporary use of a drug solely for a medical procedure or for a medical condition, and the medication has been discontinued, see below.
 - **Diabetic medications**
 - **NOT** listed on the [Acceptable Combinations of Diabetes Medications](#) (PDF).
 - pramlintide (Symlin)
 - **Dopamine agonists** used for Parkinson's disease or other medical conditions:
 - bromocriptine (Cycloset, Parlodel),

- pramipexole (Mirapex), ropinirole (Requip), and
- rotigotine (Neupro)
- **FDA (Food and Drug Administration) approved less than 12 months ago.** The FAA generally requires at least one-year of post-marketing experience with a new drug before consideration for aeromedical certification purposes. This observation period allows time for uncommon, but aeromedically significant, adverse effects to manifest themselves. Contact either your Regional Flight Surgeon or AMCD for guidance on specific applicants or to request consideration for a particular medication.
- **Hypertensive (centrally acting)** including but not limited to
 - clonidine
 - nitrates
 - guanabenz, methyl dopa, and reserpine
- **Malaria** medication - mefloquine (Lariam)
- **Over-active bladder (OAB)/Antimuscarinic** medications as these carry strong warnings

about potential for sedation and impaired cognition.

- e.g.: tolterodine (Detrol),
- oxybutynin (Ditropan),
- solifenacin (Vesicare).
- **Psychiatric or Psychotropic medications**, (even when used for something other than a mental health condition) including but not limited to:
 - antidepressants (certain SSRIs may be allowed - see [SSRI policy](#))
 - antianxiety drugs - e.g.: alprazolam (Xanax)
 - antipsychotics
 - attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD) medications
 - mood stabilizers
 - sedative-hypnotics
 - stimulants
 - tranquilizers
- **Seizure** medications, even if used for non-seizure conditions such as migraines

- **Smoking cessation aid** - e.g.: varenicline (Chantix)
- **Steroids, high dose** (greater than 20 mg prednisone or [prednisone-equivalent](#) per day)
- **Weight loss medications** - ex: combinations including phentermine or naltrexone.

Wake Turbulence

AC 90-23G

It is easy to see the wake from a boat as it moves. The waves spread out from the back and expand across the water. When other boats come across the wake, they are moved by it. A strong wake can capsize a small boat. The wake behind an airplane is similar but instead of created disturbed water it creates a rotating vortex in the air. Like the small boat an airplane following into the wake turbulence can be affected.



Wake turbulence is caused by high pressure air slipping around the outer edge of an airplane wing and rotating around the edge to the top. This produces a rotating tunnel of air off each wingtip. Normally this turbulence will drift with the wind and settle downward slowly before dissipating. The speed of the vortex can reach 300 feet/second (the speed of an EF5 tornado) when the airplane producing it is heavy, slow, and clean.

To avoid the wake of an airplane our best choice is to observe the airplane path and attempt to not intersect it or fly directly below it. Wake turbulence affects us as pilots most when we are landing or taking off following a larger, heavier airplane. In those cases, we have all been taught to take off before or land further down the runway as the plane we are following.

I have personally encountered wake turbulence on landing at KRDU. While following a large airplane to the runway I was suddenly rotated violently to the left. The roll went considerably beyond 45 degrees and then just as immediately I was under control again. It was a strong

reminder to pay attention when ATC says, "caution wake turbulence".

Question of the Quarter

During take-off, the Boeing 767 engines suck in enough air to fill the Goodyear Blimp in ____ seconds



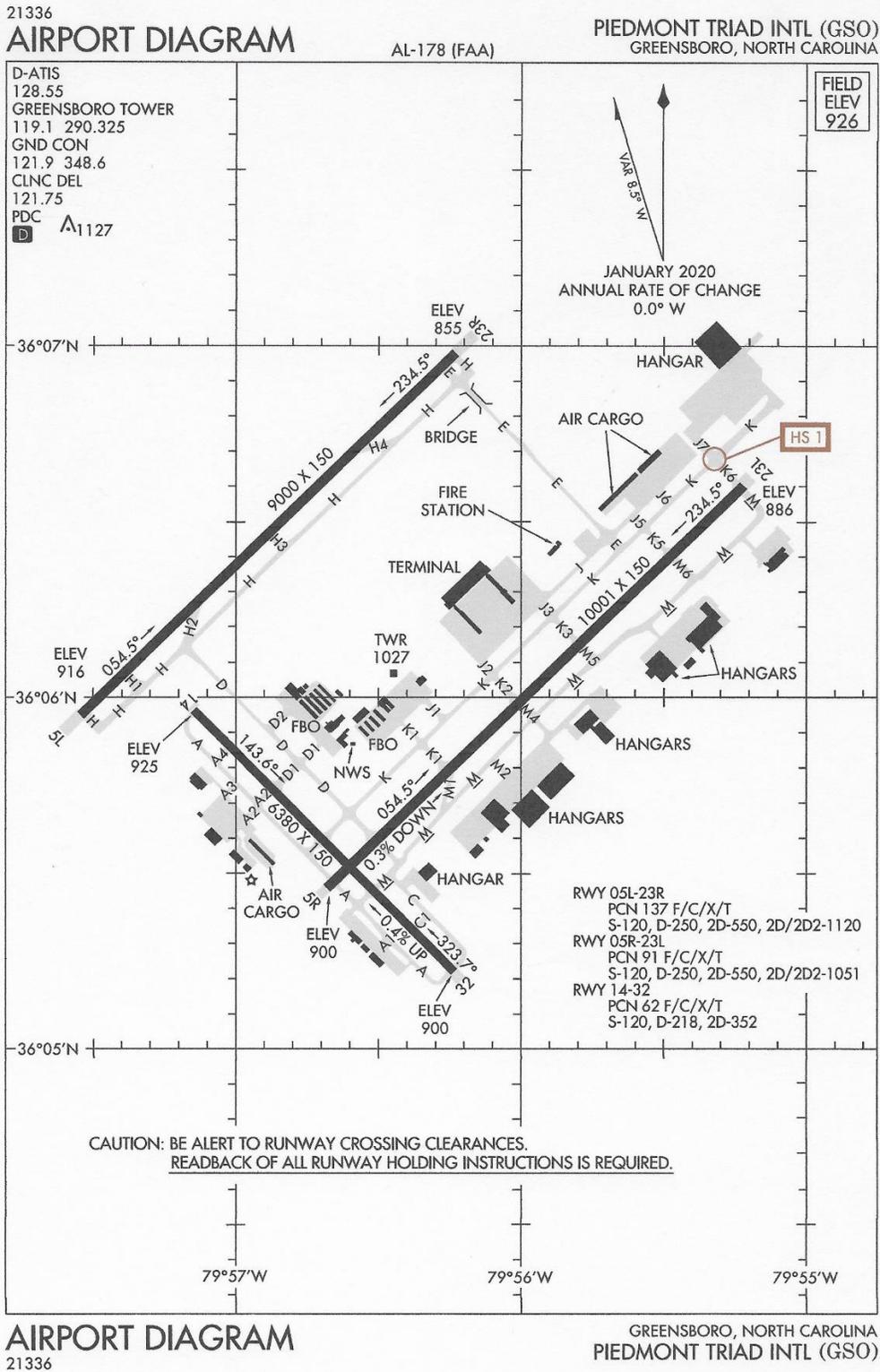
Answer:

Seven seconds.

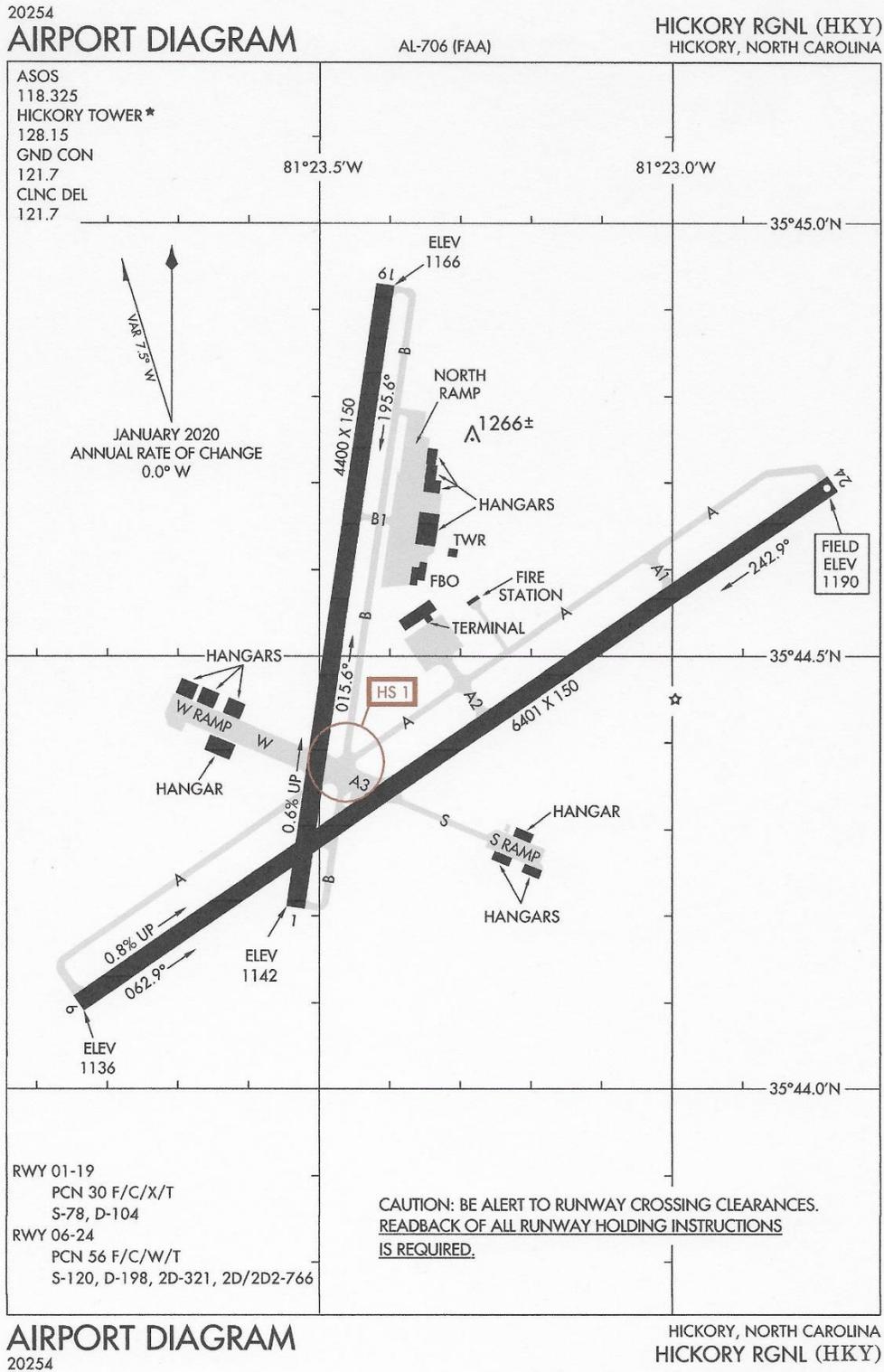
You just learned something new.

The "Higher Living" newsletter editor can be reached at david@execft.com Your feedback and article subject suggestions are welcome.

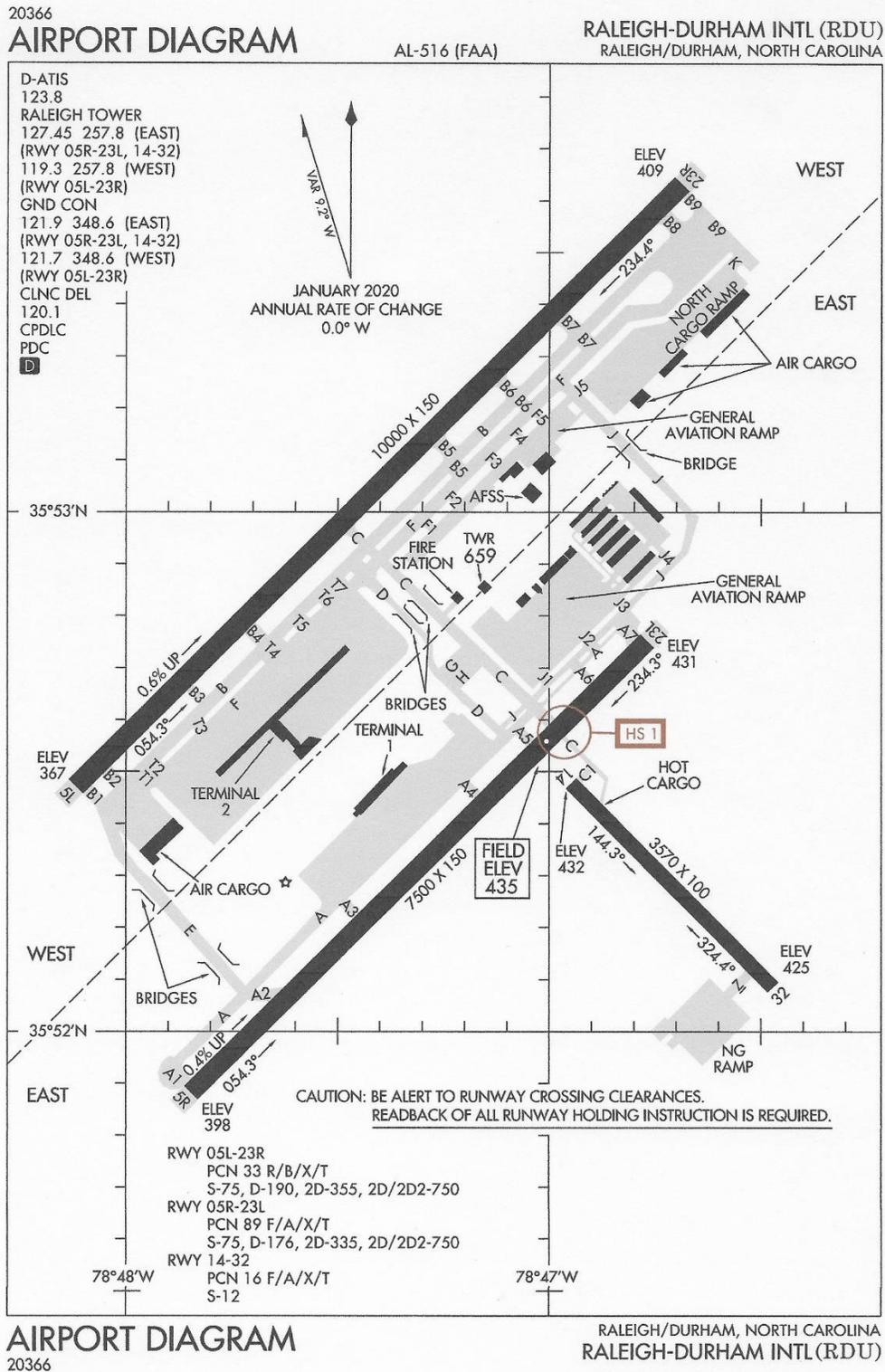
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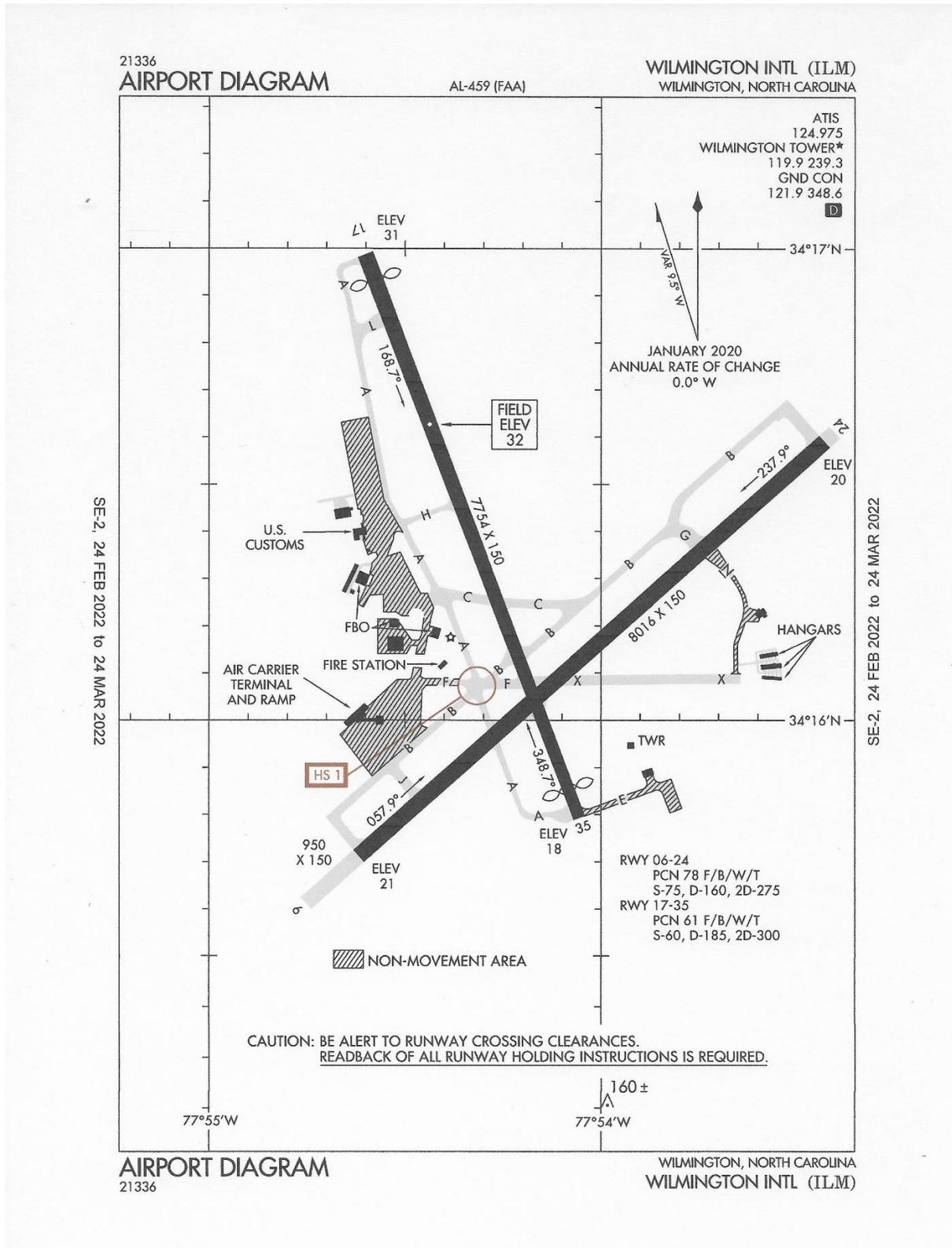
Appendix 3



Appendix 4



Appendix 5



Appendix 6



Federal Aviation Administration

What Over-the-Counter (OTC) medications can I take and still be safe to fly?

First, ask yourself “Do I have a condition that makes me unsafe to fly?” Title 14 CFR 61.53 is the regulation, which prohibits flight with a known medical deficiency [unless cleared by the FAA] and requires that you determine that you are fit to fly prior to each flight.

- Am I sick?
 - Am I having trouble clearing my ears at ground level?
 - Do I feel bad enough that I keep thinking about how I feel?
 - Are others asking me if I am ok?
 - Do I feel good enough to fly ONLY if I take medication?
 - Am I getting worse?

Next, consider these issues before operating an aircraft:

- In the last five days, have you taken or do you plan to take any medications before flying?
- If currently taking a medication only for symptom relief, would you be safe to fly without it?
- Do you have any other underlying health conditions?
 - o Discuss these conditions with your AME or family physician to determine if you are safe to fly.
 - o Specifically ask about your ability “to operate machinery” (including any aircraft).
 - o Discuss if the medication, OTC or otherwise, will pose a problem with the underlying condition or
 - o Other health conditions and/or other medications that you are taking.

****If you answered to any of the above questions: YES---STOP. You might not be fit to fly!****

When choosing an OTC medication:

#1. IDENTIFY the active ingredient(s).

Verify you have taken this medication in the past with no side effects.

Note: Single ingredient products are preferred over combination products (because it is easier to spot disqualifying ingredients).

#2. READ the label.

If there is a warning that it “**May cause drowsiness**” or if it advises the user to “**be careful when driving a motor vehicle or operating machinery,**” then this medication is NOT safe for flying.

#3. READ carefully.

If this is the first time you are taking a new medication, wait at least (5) dosage intervals and ensure that you suffer no adverse effects from it before flying while on the medication. (See the table below for the recommended observation period).

| Drug Facts | |
|---|--|
| Active ingredient (in each tablet) | Purpose |
| Chlorpheniramine maleate 2 mg | Antihistamine |
| Uses temporarily relieves these symptoms due to hay fever or other upper respiratory allergies: | |
| <ul style="list-style-type: none"> • sneezing • runny nose • itchy, watery eyes • itchy throat | |
| Warnings | |
| Ask a doctor before use if you have <ul style="list-style-type: none"> • glaucoma • a breathing problem such as emphysema or chronic bronchitis • trouble urinating due to an enlarged prostate gland | |
| Ask a doctor or pharmacist before use if you are taking <ul style="list-style-type: none"> tranquilizers or sedatives | |
| When using this product | |
| <ul style="list-style-type: none"> • You may get drowsy | <ul style="list-style-type: none"> • Avoid alcoholic drinks |
| <ul style="list-style-type: none"> • Alcohol, sedatives, and tranquilizers may increase drowsiness | ★ |
| <ul style="list-style-type: none"> • Be careful when driving a motor vehicle or operating machinery | ★ |
| <ul style="list-style-type: none"> • Excitability may occur, especially in children | |
| If pregnant or breastfeeding, ask a health professional before use. | |
| Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away. | |
| Directions | |
| Adults and children 12 years and over | Take 2 tablets every 4 to 6 hours, not more than 12 tablets in 24 hours |
| Children 6 years | Take 2 tablets every 4 to 6 hours |
| In under 12 years | not more than 24 tablets in 24 hours |
| Children under 6 years | Ask a doctor |
| Other information | |
| <ul style="list-style-type: none"> • Store at 20-25 °C (68-77° F) • Protect from excessive moisture | |
| Inactive ingredients D&C yellow no. 10, lactose, magnesium stearate, microcrystalline cellulose, pregelatinized starch | |

If you take any of the “NO GO” medications (listed below in the table) or if you have had side effects from the medication before, wait at least five (5) dosage intervals after the last dose before flying see the examples below for the recommended grounding period after discontinuation of the medication).

| Package Instructions | 5 Times Dosage Interval | No Fly Time | Recommendation |
|---|-------------------------|-------------|---|
| Every 4-6 hours^ (Up to 6 times daily) | X5 | 30 hours | Wait at least 30 hours before flying if taking a medication directed to take every 4-6 hours. |
| Every 8 hours (OR three times daily) | X5 | 40 hours | Wait at least 40 hours before flying if taking a medication directed to take every 8 hours. |
| Every 12 hours (OR twice daily) | X5 | 60 hours | Wait at least 60 hours before flying if taking a medication directed to take every 12 hours. |

^If there is a range, use the higher number

BOTTOM LINE

Review 14 CFR 61.53 if it is not familiar to you and always follow it. Not only is it a requirement, but it is for your safety and that of your passengers. When in doubt, safety first - do not fly.

- Do one more check of your condition before considering flying.
- Get well before considering return to flight status ... do not push it.
- OTC medications help reduce the symptoms of an illness, but do not cure it.
- Even though a medication has been determined to be safe for use by the Food and Drug Administration (FDA), this does not mean that the medication is compatible with flying or even driving.

Some medications are not recommended (see column “NO GO” on the table below):

- If you choose to fly on medication, be certain that it will not impair safety. Do not simply hope for the best.

NOTE: This list is not all-inclusive or intended to take the place of consultation(s) with your primary care physician and/or AME (aviation medical examiner). Remember, if you have significant underlying health conditions, it is recommended that the use of any medication be discussed with your physician **PRIOR** to taking the medication.

| Type of medication | Commonly found in | Medication or active ingredient generally safe to fly GO | Avoid these medications or ingredients* NO GO | Rationale |
|----------------------------|---|--|---|---|
| Antihistamines | Allergy products Cough/cold products Pain products | Non-sedating products: fexofenadine (Allegra) loratadine (Claritin) | Sedating products: brompheniramine (Dimetapp) cetirizine (Zyrtec) chlorpheniramine (Chlor-Trimeton) diphenhydramine (Benadryl) levocetirizine (Xyzal) | Histamines affect not only your allergies, but your sleep wake cycle. Sedating antihistamines can cause drowsiness, impaired thinking and judgement. |
| | Sleep aid products | Melatonin (not an antihistamine) | diphenhydramine (such as Zzzquil) . Same ingredient in Benadryl) Doxylamine (such as Unisom) | “Hang-over effect” morning after safety concern. NOTE: taking melatonin at the wrong time can actually worsen “jet-lag” and cause daytime drowsiness. |
| Nasal steroid | Allergy products | fluticasone (Flonase), triamcinolone (Nasacort) | None | |
| Nasal decongestants | Nasal congestion Sinus pressure Cough/cold products | oxymetazoline (Afrin), phenylephrine (Sudafed PE), pseudoephedrine (Sudafed) | (Considered safe in recommended dosages) | Caution: Sudafed-like medications can speed up your heart rate; therefore, use caution if you have an underlying heart condition. Be very cautious of an extra cup of coffee or two when feeling sub-par. This has caused more than one pilot to end up in the emergency room for a racing heart rate. |
| | | Less convenient, but safer, are the nasal salt water lavages such as saline nasal sprays Neti-pots | | |
| Cough | Cough/cold products | Coricidin (allowed if no chlorpheniramine) guaifenesin (found in Mucinex and Robitussin) Mucinex fast-max severe congestion and cough (liquid) Identify combo vs isolated | dextromethorphan (Delsym) Dayquil (contains dextromethorphan) Most “night-time” or “PM” medications contain a sedating antihistamine: - Coricidin HBP cough & cold (contains chlorpheniramine) - Nyquil (contains doxylamine) | Most cough medications are safe for flight, but caution for combination products with sedating antihistamines. If the label states PM (for nighttime use) or DM (containing dextromethorphan), you should not fly for at least 5 half-lives after the last dose (see above). |

Frequently Used OTC Medications

*These effectively can cause incapacitation (examples are not all-inclusive)

| Type of medication | Commonly found in | Medication or active ingredient generally safe to fly | | Rationale |
|---|---|--|---|---|
| | | GO | NO GO | |
| Urinary Tract Infections | Pain reliever | phenazopyridine (AZO standard) | None | Generally allowed after adequate ground trial to monitor for side effects. Symptoms should be resolved other than slight residual irritation. |
| | NSAIDs (non-steroidal anti-inflammatory drugs) and analgesics | acetaminophen (Tylenol) aspirin (Bayer's) ibuprofen (Advil/Motrin) naproxen (Naprosyn) | Advil PM, Tylenol PM (Most "PM" medications contain diphenhydramine) | Most OTC pain meds are safe to fly as long as the underlying condition is acceptable. |
| | | Other options for headaches | caffeine (commonly found in Excedrin) | |
| Aches and Pains | Topical pain relief | lidocaine patch (Lidoderm) muscle rub | (Considered safe in recommended dosages) | Caution. Some OTC meds are combined with a sedating antihistamine, which can cause drowsiness (see above for examples). Lidocaine-Caution with application, avoid getting on hands or open wound as this can drop blood pressure or absorb faster. |
| Skin Rash | Emollients and mild corticosteroid creams | almost all are allowed | Stay within the dosage to not exceed an acceptable risk | Ensure the underlying condition is not an issue with safe flight. |
| Gastrointestinal Illness: nausea, vomiting, diarrhea | Anti-emetics anti-motility drugs | bismuth subsalicylate (Kaopectate, Pepto-Bismol) | loperamide (Imodium) | Loperamide can cause sedation & dizziness. Be careful not to mask the underlying symptoms. GI illness can cause dehydration, cramps & pain with increase in altitude. |
| Gastrointestinal Illness: indigestion | Proton Pump Inhibitors (PPI) | eomeprazole (Nexium) lansoprazole Prevacid omeprazole (Prilosec) pantoprazole (Protonix) rabeprazole (Aciphex) | None | Be careful not to mask the underlying symptoms. |
| | H2 blockers | cimetidine (Tagamet) famotidine (Pepcid) nizatidine (Axid) rantedine (Zantac) | None | |
| | Antacids | aluminum hydroxide (Maalox) calcium carbonate (Tums) magnesium hydroxide (Milk of Magnesium) | None | |

Frequently Used OTC Medications

*These effectively can cause incapacitation (examples are not all-inclusive)