



GTR
Movement Area
Drivers Training
Manual



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INTRODUCTION

Purpose:

This manual is designed to be a reference of federal regulations, airport rules and regulations, and industry standards for motor vehicles and/or equipment operations at Golden Triangle Regional Airport. The manual is also designed to prepare employees for the airport's Vehicle Operations Exam.

Airport driving is different than any other type of driving. The potential for injury, not only to you, but pilots and their passengers, is great. Safety must always be your first priority. One careless mistake could result in the harm of yourself or others. It's up to you to make sure everything is done to make the airport as safe as possible.

Knowing how the airport operates, what the signs and markings mean and the types of problems and safety hazards that may occur are critical to safely operate a vehicle on the airfield. It is important that you concentrate on airport driving and learn these procedures thoroughly.

Goals:

The goal of this manual is to help provide for a safe operating environment through strict compliance with airfield rules and regulations. Accomplishing this goal requires airlines, tenants and other users of the airfield to work closely in order to promote strict adherence to all applicable airfield rules and regulations.

Other major goals of the program are to:

- Provide initial training for new employees and refresher training for all current employees in vehicle operations on the airfield.
- Stress the importance of safety procedures to prevent personal injury, property damage, and accidents from occurring.

BASIC PARTS OF AN AIRPORT

The first step to learning how to operate a vehicle on an airport is to learn the basic parts of the airport and what they're called.

Air Operations Area (AOA):

- The Air Operations Area (AOA) can easily be divided into two separate areas: the **Movement Areas**, and the **Non-Movement Areas**.
- I. The Non-Movement Areas consist of aprons, aircraft parking areas, and some vehicle service roadways. No clearance is required from FAA Air Traffic Control Tower to operate in a non-movement area.

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- II. Movement Areas consist of runways, taxiways and helipads. To operate a vehicle in the movement area, clearance must be obtained from the FAA Air Traffic Control Tower (ATC) if it is open. You must either be movement area certified or be under the escort of someone who is certified to be on the movement area. In either case, you must always contact ATC for approval prior to accessing any movement area if it is open. If outside of tower operating hours, you must announce your actions in the movement area over the appropriate radio frequencies.

Non-Movement Area

Before driving anywhere on the AOA, you must know the location of the boundary between the non-movement area and the movement area. The yellow shaded areas in the airport illustration depict the movement areas at GTR.



These areas are separated and identified by a marking called a “**Non-movement Area Boundary Marking.**” The Non-movement Area Boundary Marking consists of one solid yellow line to indicate the non-movement area side of the marking, and one dashed yellow line to indicate the movement area side (taxiway side) of the of the marking. If during ATC operating hours you may not cross onto a movement area (past the solid yellow line) without permission from Air Traffic Control (ATC).



Ramps/Aprons:

Ramps also referred to as aprons are areas where aircraft are parked, loaded and unloaded, and serviced between flights. They vary in size, from areas that may hold five or ten small planes, to the very large areas. Your work may require you to drive on an apron. If so, be very careful in these areas. Vehicles and aircraft operate in close proximity in these areas, so it is vital to maintain a safe distance between your vehicle and aircraft. Never assume the pilot will

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see you and stop. He or she may be busy with other things like radio communications or checking the aircraft instruments. Slow speed and extreme caution are required in these areas.

Vehicle Service Roads (VSR):

Vehicle Service Roads provide vehicle access from one area of the airfield to another. This increases safety and provides for orderly flow of traffic on the airfield. Examples of service roads in the non-movement area at GTR: Stark Aerospace access road, Fuel Farm road, ILS/LOC maintenance roads. VSRs in the movement areas include both glideslope access roads.

Markings on Non-Movement Areas:

Ramps may contain a variety of markings to indicate aircraft parking, tie downs, vehicle lanes, speed limits, etc. It is important to know what the markings mean, and to comply with them at all times. You have already read about the Non-movement Area Boundary Marking. Another such markings should be reviewed in Appendix I of this manual.

Tips for Driving in Non-Movement Areas

- Know where the boundary is between movement and non-movement areas.
- The speed limit is 15 mph or less, unless otherwise posted.
- Never drive behind an aircraft that is being pushed back. This can be identified by beacon, wing walkers, chocks pulled, etc.
- Do not drive through fuel spills—they can ignite.
- Beware of the danger of jet blast and prop wash—watch for flashing beacons on aircraft to indicate the engine is running or about to start. Damage can occur as far as 300 feet behind a jet aircraft with engines running.
- Use extreme caution when driving at night and/or in poor weather conditions.
- Realize that you can become disoriented even in the best conditions. When disoriented, stop and request assistance from ATC.
- Be alert to any foreign object debris (FOD). Either pick it up or notify someone who can.

Movement Areas

To operate a vehicle in the movement area, clearance must be obtained from the FAA Air Traffic Control Tower (ATC) if within their operating hours. At GTR the ATC is open from 0600-2000 local time. If you are operating during periods when they are closed you must announce you actions on the appropriate radio frequency. That is usually the airport frequency or the Common Traffic Advisory Frequency (CTAF). You must either be movement area certified or be under the escort of someone who is certified to be in the movement area. At GTR movement areas include the runway 18-36, taxiway A-G, the helipad, all the associated runway and taxiway safety areas.

Runways:

A runway is a defined rectangular strip used for the takeoff and landing of aircraft. The painted markings on a runway are white and the lights along the edge are white. The beginning of a runway is called a threshold. There are four lights on either side that are green on one side and red on the other. The green side is seen approaching the runway for a landing while the red side is seen approaching the end of the runway.

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A runway can be used from either end. That is why numbers are painted on each end. These numbers indicate the runways' compass direction. For example, our runway 18 (pronounced "one-eight") is pointing south or 180 degrees. A pilot will usually choose to take-off and land into the wind. Therefore, if the wind is out of the north, the pilot will usually choose to take-off and land on runway 36 ("three-six"). Golden Triangle Regional airport has only one runway; 18 and 36. The Runway is 8,003 feet long and 150 feet wide. Important things to remember: **Never enter a runway unless you have permission from the tower to do so.**

I. Runway Markings

All runways have white dashed centerline stripes, and solid white edge lines.



As a taxiway nears the edge of a runway there are enhanced centerline taxiway markings that give warning when approaching the runway hold short marker. All runway entrances are clearly marked with Hold Short Position Markings. The hold position marking consists of two solid yellow lines to indicate the taxiway side of the marking, and two dashed yellow lines to indicate the runway side of the marking.



II. Runway Signs

There is also a red runway hold position sign in the grass to the side. The runway entrance from a taxiway is identified by a hold position sign that is red with white letters. The sign states the name of the taxiway you are on and the runway/s you are about to enter. NEVER go past this sign without permission from ATC.



III. Runway Lighting

At night and during inclement weather, the runway edges are illuminated by white lights. The last 2,000 feet of available runway have amber edge lights.

a) Approach Lights:

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When the visibility is low, pilots use a series of bright white lights to help them find the runway. These are known as Approach Lights and they are located just before the threshold of the runway. In the center of these lights are strobe lights that flash in sequence. These are called sequenced flashing lights, but they more commonly known as “the rabbit”. This entire lighting system is called the MALSR (pronounced mahl-zer). At our airport we have one set of approach lights and they are located on Runway 18. GTR also has a 4-light PAPI on left of runway 36 and a 4-box VASI on the left of runway 18.

b) Airport Beacon:

In addition to the lights on the ground, your airport has a revolving light that is located on the control tower. This light flashes a green and then a white light and is called a rotating beacon. This light helps the pilot in the air locate the airport at night.

Taxiways:

A taxiway is a prepared strip used for the movement of aircraft on the airport surface to transition from the runway to the apron and vice versa.

I. Taxiway Markings

All taxiways have a yellow centerline stripe, yellow lead-in lines, double yellow edge stripe and double yellow lines abutting an apron. Instead of numbers, taxiways are identified with letters.



II. Taxiway Lighting

At night and during inclement weather, the taxiway edges are illuminated by blue lights.



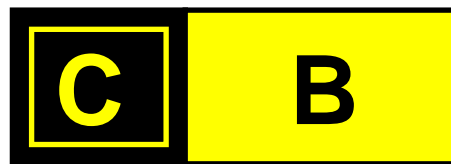
Remember: Never enter a taxiway unless you are authorized to do so by ATC if the tower is open. If it is closed, ensure you announce your actions on the appropriate radio frequency.

III. Taxiway Signs

- a.) The taxiway entrance from an apron is identified by a directional guidance sign that is yellow with black letters and states the name of that taxiway preceded by a location guidance sign with yellow letters on a black background, indicating the taxiway intersection. Also, a taxiway guidance sign shows the way to another taxiway by stating the taxiway letter and a directional arrow.



- b.) The other guidance signs tell you where you are on the airport and also give you directions to parking areas, taxiways, or runways. A sign with yellow letters on a black background indicates the taxiway you are currently traveling on. A sign with black letters on a yellow background indicates the name of the intersecting taxiway. This is a **guidance sign**:



For more examples and information on airport signs and marking refer to Appendix I.

Safety Areas: Runways and Taxiways

There is an imaginary area around each runway and taxiway called a safety area. There should be no vehicles, equipment or personnel within the safety area without approval of the control tower. For GTR's runway, the safety area is 500 feet wide and extends 1,000 feet past the end. For the taxiways, the safety area extends 55 feet wide on either side of the taxiways centerline. The safety area allows an aircraft to accidentally leave the runway or taxiway without sustaining damage.

Intersections:

An intersection on an airport is where a taxiway meets a runway or another taxiway. For example, the point where taxiway D crosses taxiway A is called "the intersection of Delta and Alpha".

It is important to remember:

You must always yield to aircraft and give them the right-of-way. You must never drive under any part of an aircraft, including its wings.

AIRCRAFT OPERATIONS

To operate safely around aircraft one must have a basic understanding of how they operate while in the airport environment.

Aircraft can be divided into **three categories**:

- Air carrier and other large aircraft;
- General aviation aircraft;
- Helicopters

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Air carrier aircraft are very visible during daytime operations, but may be difficult to see during nighttime operations. General aviation aircraft and helicopters are typically much smaller and may be difficult to see during nighttime and daytime operations. The airfield driver must be knowledgeable of the various types of aircraft operating at the airport, and be watchful for any possible encounter with an aircraft.

Takeoffs and Landings

All aircraft flight operations must originate and terminate from an active runway surface. However, you may see helicopters land directly at their apron parking area.

Taxiing

Taxiing is defined as aircraft moving under power between parking areas and runways. This is done on aprons, taxiways, and movement areas. Employees are most likely to encounter aircraft while they are taxiing. Pay close attention to aircraft when crossing taxiways on the vehicle service roadways.

Parking

All aircraft will park at the termination of their flight in an approved parking area, such as a gate, apron, FBO, private hangar, or tie down.

Aircraft Push Backs

Aircraft will typically leave the gate or parking area by being pushed back by a tug or by powering out, if space exists directly in front of the aircraft

Engine Run-Ups

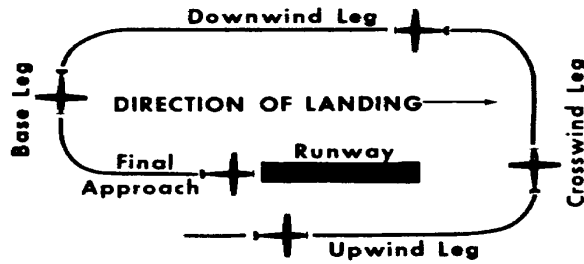
Before takeoff, smaller aircraft may conduct an engine run-up at high RPM. This can create strong gusts of air behind the aircraft. Be on the lookout for jet blast and FOD.

Helicopter Operations

Because of the unique capabilities of helicopters, special precautions must be taken when operating around them. Be aware of the main rotor and the tail rotor which are turning at high speeds. It is best to maintain a safe distance from the helicopter, and stay in sight of the pilot until the rotors have come to a complete stop. Always approach a helicopter from the front.

Traffic Patterns

Aircraft approaching runway for landing follow a pattern. In most cases, the pattern is a rectangular box with the pilot making all turns to the left. Each side of the pattern has a name, as shown in the diagram. Pilots use these names to report their position on the radio when they are in the traffic pattern. Familiarity with these names will help you locate an aircraft when the pilot reports his/her position on the radio.



CONTROL TOWER OPERATIONS

An Air Traffic Control Tower houses people known as controllers who direct airplanes and vehicles on and around the airport. Controllers are responsible for keeping aircraft separated from other aircraft and vehicles. To do this, aircraft and vehicles must talk to the tower by radio and must follow the tower's instructions. (Later in this manual, you will also find the procedures to follow when the tower is closed.)

The tower at GTR is open from 6:00 a.m. to 8:00 p.m. (local). Before operating a vehicle on the airport, you should visit the tower to see first-hand what their job entails and also to get an idea of what to expect when you radio the tower. You can contact GTR airport management to schedule a visit with the tower.

Controlled Airport:

The airport is known as "controlled" when the tower is open. At a controlled airport, you must get the controllers' permission before going onto any Movement Area. To get permission, you will call the tower on radio frequency 118.2 or on the airport frequency channel 3.

Light Gun Signals:

If you are ever driving on a runway or taxiway and your radio quits working or have lost communication with the tower, you should turn your vehicle toward the tower and flash your headlights. The controller will signal you with a light gun. The signals, and what they mean, are found in Appendix II. These signals should be memorized and a copy of these signals should be available while operating on the AOA.

The Phonetic Alphabet:

Because some letters have similar sounds, like B and P, the aviation industry uses the words in the phonetic alphabet instead of only a letter. For example, Taxiway B would be referred to as Taxiway Bravo on the radio. A copy of the phonetic alphabet is in Appendix III.

Call Signs:

Your call sign is the name you use to identify yourself to the tower. For example; "M-1" is Maintenance #1 in a truck. "Alpha 2" is Administration #2 in a car.

How to Talk to the Tower:

Before proceeding in the Movement Area, you must get permission from the tower. You should use the same procedures and terminology that pilots use. If you forget how to say something, don't worry. Just describe what you want in your own words and the tower will help

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you. If you become lost, they can guide you to your destination. Controllers are just like you or me. They understand that this is new to you and they are willing to help. Please be patient when you need assistance. If the controllers are busy, they will help you as soon as they have time.

- I. Use an air-to-ground radio with the airport's ground frequency when operating on the taxiways. The ground control frequency is 135.375. Use the airports Tower frequency when requesting operation on runways (118.2). If your vehicle is equipped with the airport FM band you can get approval for entry into the movement area on channel 3.
- II. Know the proper phrases that controllers and pilots use. (Note: Controllers do not use the "ten" codes such as ten-four)
- III. Know what you are going to say before you call the controller. If you are uncomfortable talking on the radio, practice a few times by yourself before calling the controller.
- IV. Use the proper sequence in calling the controller. Before you start talking on the radio, make sure that no one else is already talking on that frequency. Then, if the radio is clear, you should:
 - a) Say who you are calling, then who you are.
"Golden Triangle Tower, this is M1" (Golden Triangle Ground means you are calling Golden Triangle Tower)
 - b) Wait for the controller to respond. It may take the controller a little while to call you back if they are busy. When the controller calls back "M1, Golden Triangle Ground.", tell the controller **who you are** again, **where you are**, and **what you want to do**. Example: "M1 is at taxiway Delta, holding short of Alpha, I would like to proceed south on Alpha to Charlie." Then wait for the controller to answer you.
 - c) The controller will either approve or deny your request, or issue special instructions. "M1, proceed, south on Alpha to Charlie", or they may respond with "M1, proceed taxiway Delta, Alpha and hold short of taxiway Echo." Acknowledge that you have heard the controller's instructions (such as hold short), repeat the instructions briefly to the controller to show that you have heard and understand the order. "M1, Roger, Hold short of taxiway Echo." You should know the phrases that controllers use and what they mean before going onto any runway or taxiway.
 - d) Once you have acknowledged the controller, follow the instructions he/she just gave you.

Read Back:

The control tower wants to be sure you understood your instructions, particularly when an aircraft is in the vicinity. You should always repeat the instructions given to you back to the control tower. If you don't, the tower may ask you to read back a particular instruction, "M-1, read back you will hold short of Echo" This means you should repeat the instructions back to the tower, "Roger, M-1 will hold short of Echo"

UNCONTROLLED AIRPORT OPERATIONS

The airport is “uncontrolled” when the tower is closed. At an uncontrolled airport you are responsible for avoiding aircraft. You should carry an air-to-ground radio tuned into the airport’s common traffic advisory frequency (CTAF) on frequency 118.2.

Using proper radio procedures, which we will go into later, say **where you** are and **what you will be doing**, especially when you are about to cross a runway. In the case of a situation that you can’t carry an air-to-ground radio, let someone in authority know where you will be, and for how long. When you get near the runway-taxiway system, SLOW DOWN, look both ways, and then look UP for aircraft that are taxiing, landing or taking off. Always yield the right of way to any aircraft, and give them plenty of room to pass by you. If the aircraft is on the same taxiway as you are and is headed in your direction, move out of their way. If you are about to cross or go onto a runway, look both ways and then look again. If an aircraft is coming in to land and it is close enough that you can see it, stop and wait for it to land and go past you before going onto the runway. If you can’t see both ends of the runway from your location on the airfield, move where you have better visibility before crossing. Whenever possible, cross at the end of a runway.

Talking on the radio on an uncontrolled field is much like talking on a controlled field. The major difference is that usually, no one is going to talk back to you. Before going onto the movement area, announce on the radio **who you are, your present location, and where you are headed**. For example “Golden Triangle Traffic Alpha 2 is on the terminal ramp. I am proceeding onto runway 36 via taxiway Delta, Alpha”. When you are finished with your business on the runway, you should announce “Golden Triangle traffic Automobile Alpha 2 is clear of the runway.” Always listen on the CTAF frequency for other vehicles and aircraft. Most will be talking on the radio just as you are. Do not, however, rely only on the radio to alert you to aircraft. Not all will talk on the radio. Also, remember your vehicle should have a flashing beacon in use whenever you are in the movement area.

GENERAL INFORMATION

Airport Rules

The Airport Certification Manual contains the following rules for operating a vehicle on the airport:

All vehicles operating in the movement area shall be equipped with two-way radio capable of transmitting on tower and ground frequencies. A vehicle without a radio must be escorted by a vehicle with a radio.

All vehicles operating in the movement area shall have a flashing light on top of the vehicle. For Fire, ambulance, and police vehicles these lights may be red, blue, white, or a combination thereof. For all others the light shall be yellow. A vehicle without a flashing light may be escorted by a vehicle with a light.

“**Escort**” means to accompany and supervise an individual who has an “operational need” to be present in but does not have unescorted access authority to areas restricted for security purposes. Any person providing escort privileges is **responsible for the actions of any person/vehicle under their escort supervision**.

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If you provide escort you must assume the following responsibilities:

- A. Once you begin escort you are responsible for the escort(s) until they exit the area or you receive an acknowledgement of acceptance of the escort from another authorized person.
- B. Maintain visual line-of-sight contact with the individual(s) and not become involved in any other activity besides the responsibility of your escort(s).
- C. Be able to control the actions of the individual(s)/vehicle(s) you escort.
- D. You must notify, by the most expedient means available, the Airport Administration and/or Law Enforcement Officer immediately if individual(s) deviate from your control.

Foreign Object Debris (FOD)

FOD is an abbreviation for foreign object debris. FOD is rocks, dirt, trash, and etc. on pavement where aircraft operate. Trash can be sucked into a jet engine and cause it to quit, which could be deadly if the aircraft is just starting to takeoff. Trash can puncture tires, and dent or puncture other parts of an aircraft, making the aircraft unsafe.

Rocks can be just as serious. A rock sucked into a jet engine can shred parts of the engine in seconds. A rock caught by a propeller can damage the propeller, as well as become a deadly projectile that can hurt anyone standing nearby. You can help make your airport a safer place by following these basic rules: Put all your trash in a covered container that won't be blown over. Get in the habit of picking up any trash and rocks lying around on the ground. Keep an eye out for nails, bolts and other small metal pieces that can puncture tires easily. Also pick up plastic bags instead of letting them blow across the field. Avoid tracking mud and rocks onto the pavement surfaces. If you do, advise the airport management and immediately clean the pavement.

Remember: FOD awareness and prevention is everyone's business.



How to Report an Emergency:

The most important thing to remember when you see an emergency happen or you are involved in one is to TELL SOMEONE, so the proper emergency personnel can be called for help. You may report an emergency through any of the following:

- 1. Pilot of the aircraft concerned
- 2. Air Traffic Control or Flight Specialist
- 3. Aircraft owner or his representative

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4. Airport Manager or his representative
5. Witness to an accident, through any of the above.

Aircraft Rescue and Fire Fighting (ARFF):

If you see a fire truck approaching with its flashing lights on, pull over out of the truck's way. Do not proceed until it is clear of you. The ARFF station at GTR is located on the general aviation ramp just north of the terminal.

Security

Your airport's security system includes fences and automatic gates. Each person who works on the airport is responsible for making the security plan work. If you see a gate open and unattended, close it and then report it to the airport manager or airport security. If you see a strange vehicle on the apron that doesn't look like it belongs there or appears to be lost, stop it and offer assistance or directions. If you are ever hesitant to stop an unknown vehicle, call the airport manager or other authority and ask for assistance.

Night Driving

At night the airport may look like a confusing array of blue, white, red, and green lights. It's much easier to get lost or confused when driving on the airport at night. If you have to drive at night, it's a good idea to take someone who is familiar with how the airport looks at night with you the first couple of times. If that's not possible, allow yourself a little extra time to get to and from your destination. Be sure to watch for signs and markings and remember to drive slower than you normally would. It is very easy to make a wrong turn at night, so if you're not absolutely sure, ASK someone.

Consequences

The primary concern of Airport Management is the safe and efficient operation of ground vehicles in the Airport Operations Area (AOA). The intent of these consequences is not to punish the violator, but to encourage future compliance with safety regulations.



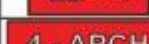



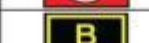

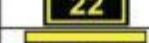
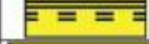
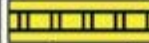
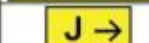

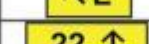
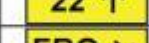
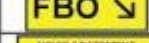
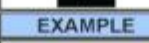

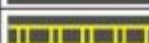
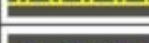
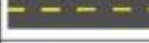
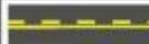
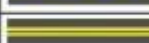
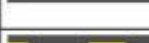


Airport Management will take appropriate enforcement action based on the severity of the offense. The Airport management reserves the right to impose any penalty it deems warranted. The FAA can also impose a fine of \$10,000 per runway incursion and \$1,000 per taxiway incursion!

<u>GROUP</u>	<u>1st OFFENSE</u>	<u>2nd OFFENSE</u>	<u>3rd OFFENSE</u>
Airport Employees	Recurrent training Written reprimand 1 week driving suspension	Recurrent training Written Reprimand 1 day suspension from work	Recurrent training Written reprimand 3 day suspension from work
Airport Tenant	Written warning to employer Recurrent training	Written warning to employer Recurrent training 1 week driving suspension	Written warning to employer Recurrent training 2 week driving suspension
Airport Contractor	Written warning to contractor Recurrent training 1 week driving suspension	Written warning to contractor Recurrent training 2 week driving suspension	Written warning to contractor Recurrent training Driving privileges revoked

Before you take the Vehicle Operations Exam you should carefully study the following Appendix

Appendix I

AIRPORT SIGN AND MARKING – QUICK REFERENCE GUIDE

EXAMPLE	TYPE OF SIGN	PURPOSE	LOCATION/CONVENTION
	Mandatory. Hold position for taxiway/runway intersection.	Denotes entrance to runway from a taxiway.	Located <u>L side</u> of taxiway within 10 feet of hold position markings.
	Mandatory. Holding position for runway/runway intersection.	Denotes intersecting runway.	Located <u>L side</u> of rwy prior to intersection, & <u>R side</u> if rwy more than 150' wide, used as taxiway, or has "land & hold short" ops.
	Mandatory. Holding position for runway approach area.	Denotes area to be protected for aircraft approaching or departing a runway.	Located on taxiways crossing thru runway approach areas where an aircraft would enter an RSA or aprn/ departure airspace.
	Mandatory. Holding position for ILS critical area/precision obstacle free zone.	Denotes entrance to area to be protected for an ILS signal or approach airspace.	Located on twys where the twys enter the NAVAID critical area or where aircraft on taxiway would violate ILS apch airspace (including POFZ).
	Mandatory. No entry.	Denotes aircraft entry is prohibited.	Located on paved areas that <u>aircraft</u> should not enter.
	Taxiway Location.	Identifies taxiway on which the aircraft is located.	Located along taxiway by itself, as part of an array of taxiway direction signs, or combined with a runway/ taxiway hold sign.
	Runway Location.	Identifies the runway on which the aircraft is located.	Normally located where the <u>proximity of two runways</u> to one another could cause confusion.
	Runway Safety Area / OFZ and Runway Approach Area Boundary.	Identifies exit boundary for an RSA / OFZ or rwy approach.	Located on taxiways on <u>back side</u> of certain runway/ taxiway holding position signs or runway approach area signs.
	ILS Critical Area/POFZ Boundary.	Identifies ILS critical area exit boundary.	Located on taxiways on <u>back side</u> of ILS critical area signs.
	Direction: Taxiway.	Defines designation/direction of intersecting taxiway(s).	Located on <u>L side</u> <u>prior to intersection</u> , with an array L to R in clockwise manner.
	Runway Exit.	Defines designation/direction of exit taxiways from the rwy.	Located on same side of runway as exit, prior to exit.
	Outbound Destination.	Defines directions to take-off runway(s).	Located on taxi routes to runway(s). <u>Never</u> collocated or combined with other signs.
	Inbound Destination.	Defines directions to airport destinations for arriving aircraft.	Located on taxi routes to airport destinations. <u>Never</u> collocated or combined with other types of signs.
	Information.	Provides procedural or other specialized information.	Located along taxi routes or aircraft parking/staging areas. May not be lighted.
	Taxiway Ending Marker.	Indicates taxiway does not continue beyond intersection.	Installed at taxiway end or far side of intersection, if visual cues are inadequate.
	Distance Remaining.	Distance remaining info for take-off/landing.	Located along the sides of runways at 1000' increments.
EXAMPLE	TYPE OF MARKING	PURPOSE	LOCATION/CONVENTION
	Holding Position.	Denotes entrance to runway from a taxiway.	Located across centerline within 10 feet of hold sign on taxiways and on certain runways.
	ILS Critical Area/POFZ Boundary.	Denotes entrance to area to be protected for an ILS signal or approach airspace.	Located on twys where the twys enter the NAVAID critical area or where aircraft on taxiway would violate ILS apch airspace (including POFZ).
	Taxiway/ Taxiway Holding Position.	Denotes location on taxiway or apron where aircraft hold short of another taxiway.	Used at ATCT airports where needed to hold traffic at a twy/twy intersection. Installed provides wing clearance.
	Non-Movement Area Boundary.	Delineates movement area under control of ATCT, from non-movement area.	Located on boundary between movement and non-movement area. Located to ensure wing clearance for taxiing aircraft.
	Taxiway Edge.	Defines edge of usable, full strength taxiway.	Located along twy edge where contiguous shoulder or other paved surface NOT intended for use by aircraft.
	Dashed Taxiway Edge.	Defines taxiway edge where adjoining pavement is usable.	Located along twy edge where contiguous paved surface or apron is intended for use by aircraft.
	Surface Painted Holding Position.	Denotes entrance to runway from a taxiway.	Supplements elevated holding position signs. Required where hold line exceeds 200'. Also useful at complex intersections.
	Enhanced Taxiway Centerline.	Provides visual cue to help identify location of hold position.	Taxiway centerlines are enhanced 150' prior to a runway holding position marking.
	Surface Painted Taxiway Direction.	Defines designation/direction of intersecting taxiway(s).	Located L side for turns to left. R side for turns to right. Installed prior to intersection.
	Surface Painted Taxiway Location.	Identifies taxiway on which the aircraft is located.	Located R side. Can be installed on L side if combined with surface painted hold sign.

Ref. AC 150/5340-1J Standards for Airport Markings, and AC 150/5340-18D Standards for Airport Signs Systems



Closed runway and taxiway marking: Located at both ends of permanently closed runways and at 1,000-foot intervals. It is also placed at taxiway entrances if they are permanently closed.

Appendix II

LIGHT SIGNALS

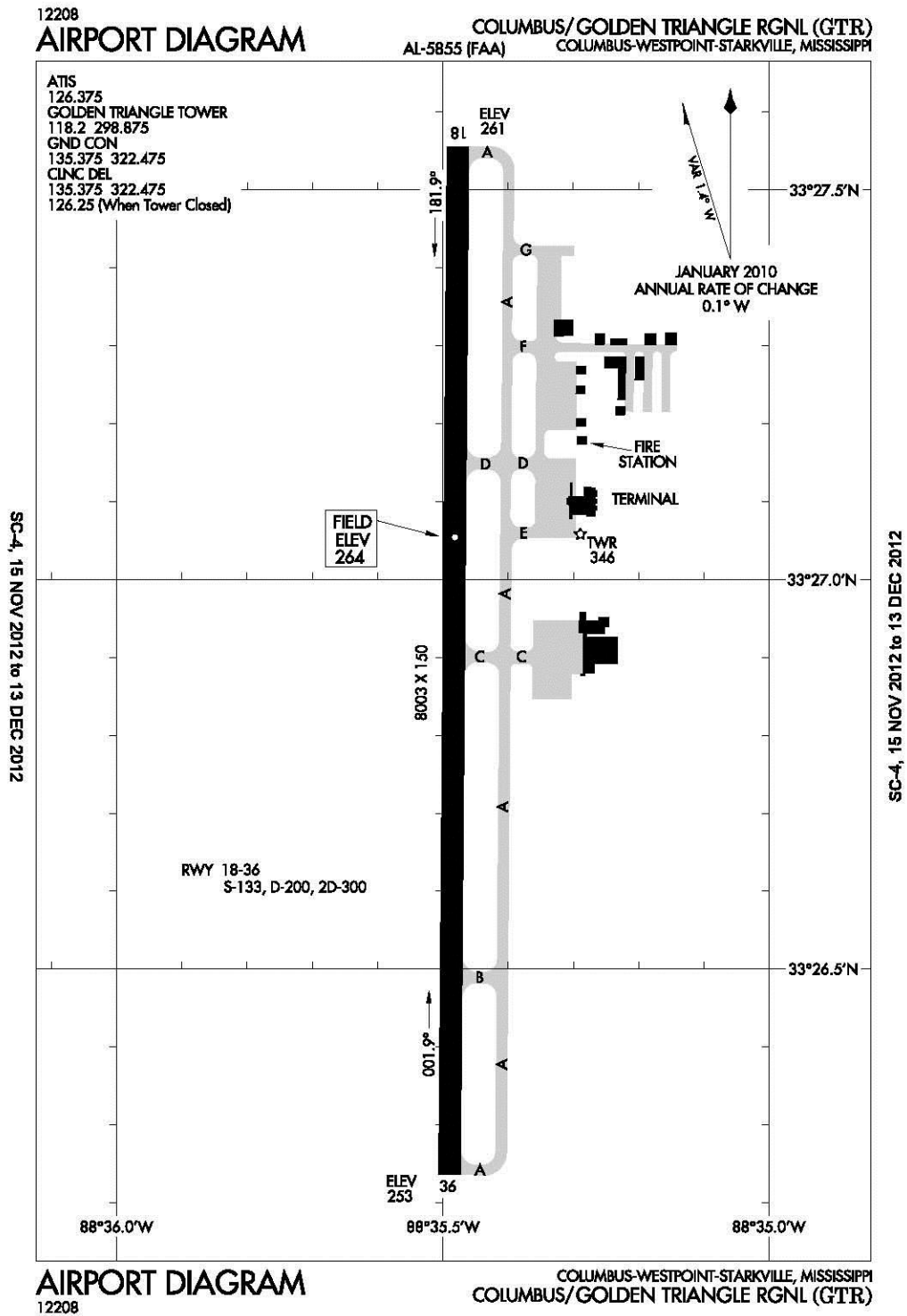
<u>IF THE LIGHT IS</u>	<u>IT MEANS</u>
Steady green	Okay to cross runway or taxiway
Steady red	Stop
Flashing red	Move off the runway or taxiway
Flashing white	Go back where you started
Alternating red and green	Use extreme caution

Appendix III

PHONETIC ALPHABET

Instead of Saying	Say	Instead of saying	Say
A -	Alpha (AL fah)	N -	November (no VEM ber)
B -	Bravo (BRAH voh)	O -	Oscar (OSS car)
C -	Charlie (CHAR lee)	P -	Papa (pah PAH)
D -	Delta (DELL tah)	Q -	Quebec (keh BECK)
E -	Echo (ECK oh)	R -	Romeo (ROW me oh)
F -	Foxtrot (FOKS trot)	S -	Sierra (see AIR rah)
G -	Golf (GOLF)	T -	Tango (TANG go)
H -	Hotel (hoh TELL)	U -	Uniform (YOU nee form)
I -	India (IN dee ah)	V -	Victor (VIK tah)
J -	Juliatt (JEW lee ett)	W -	Whiskey (WISS key)
K -	Kilo (KEY loh)	X -	X-ray (ECKS ray)
L -	Lima (LEE mah)	Y -	Yankee (YANG kee)
M -	Mike (MIKE)	Z -	Zulu (ZOO loo)

Appendix III



make sure you become familiar with the current airport diagram.

Appendix V

RADIO PHRASEOLOGY

<u>WHAT IS SAID</u>	<u>WHAT IT MEANS</u>
Acknowledge	Let me know you have received and understand this message.
Advise intentions	Tell me what you plan to do
Affirmative	Yes
Confirm	My version is...is that correct?
Correction	I made a mistake. This is what I should have said.
Final	Commonly used to mean that an aircraft is on the final approach or is aligned with a landing area.
Go ahead	Continue speaking your message.
Hold	Stay where you are
Hold short	Stop at the hold line at the intersection of the taxiway and the runway. Do not proceed onto the runway.
How do you hear me?	How well is this radio working?
Negative	No, or permission not granted, or that is not correct.
Out	The radio conversation ended and no response is expected.
Over	My radio transmission is ended and I expect a response.
Proceed	You are authorized to begin or continue moving.
Read Back	Repeat my message to me.
Roger	I have received all of your last transmission and understand it.
Say again	Repeat what you just said.
Speak slower	Speak slower
Stand by	Wait a moment, I will call you back.
That is correct	The understanding you have is correct.
Unable	I can't do it.
Verify	Request confirmation of information Also, check and transmit correct information.
Wilco	I have received your message, understand it, and will comply.

** "Go ahead" does not mean "proceed" **