U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports

Date: 9/1/2015 **AC No:** 150/5210-20A

Initiated By: AAS-300

1 **Purpose.**

This Advisory Circular (AC) and the attached appendices provide guidance to airport operators to develop training programs for safe ground vehicle operations, personnel taxiing or towing an aircraft, and pedestrian control on the movement and safety areas of an airport. The term vehicle includes aircraft being taxied under their own power by a non-pilot, or being towed with no intention for flight. Not all the items addressed in this document will be applicable at every airport. The Federal Aviation Administration (FAA) recommends that each airport operator evaluate their program on how it may apply to the size, complexity, and scope of operation of the airport. This AC contains recommended operating procedures, a sample Training Curriculum (Appendix A), sample Training Manual (Appendix B), and a sample Letter of Agreement (LOA) (Appendix C).

2 **Applicability.**

The overall responsibility for the operation of vehicles on an airport rests with the airport operator. The airport operator is also responsible for compliance with the requirements of part 139 at airports holding an airport operating certificate and with the provisions of any applicable Federal grant agreements. In general, use of this advisory circular is not mandatory. Adherence to the provisions contained in this AC may materially assist the airport operator in complying with these requirements. FAA recommends the guidelines and specifications in this AC for ground vehicle operations on airports.

3 **Cancellation.**

This AC cancels AC 150/5210-20, *Ground Vehicle Operations on Airports,* dated June 21, 2002, and Change 1 to AC 150/5210-20, dated March 31, 2008.

4 **Background.**

Each year accidents, incidents, and runway incursions occur involving aircraft, pedestrians, ground vehicle drivers, and personnel taxiing or towing aircraft at airports. These accidents and incidents can lead to property damage, injuries, and even death. Many of these events result from inadequate security, inadequate training, a failure to maintain visual aids, or a lack of such aids. Ground vehicle operation plans and training promote the safety of airport users by helping identify authorized areas of vehicle operation, outlining vehicle identification systems, addressing vehicle and operator requirements, and coordinating construction, maintenance, and emergency activities.

5 **Principal Changes.**

Changes to this AC include the following:

1. Addresses aircraft being taxied by persons other than certificated pilots;
2. Adds a definition for Airport Operations Area;
3. Revises the definition for Non-Movement Area;
4. Replaces the term "Ramp" with "Apron" to harmonize with the International Civil Aviation Organization (ICAO) Annex 14 Volume 1;
5. Adds a definition for Vehicle or Pedestrian Deviation;
6. Provides guidance for towered airports on Part 139 requirements for people and equipment in the Runway Safety Area (RSA);
7. Calls for a Letter of Agreement at towered airports between the airport operator, the tower, and FAA Technical Operations;
8. Provides guidance on taxing and/or towing aircraft in the movement area by non-pilots; and
9. Incorporates numerous changes to format and content throughout the document.

6 **Comments or Suggestions.**

Use the Advisory Circular Feedback form at this end of this AC to send comments or suggestions for improving this AC.

7 **Related Reading Material.**

You will find additional information in the following publications:

1. 14 CFR part 139, Certification of Airports
2. Current editions of the following advisory circulars:
   a. AC 90-67, *Light Signals from the Control Tower for Ground Vehicles, Equipment, and Personnel*
   b. AC 120-57, *Surface Movement Guidance and Control System*
   c. AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*

d. AC 150/5340-1, *Standards for Airport Markings*

e. AC 150/5340-18, *Standards for Airport Sign Systems*

f. AC 150/5340-30, *Design and Installation Details for Airport Visual Aids*

g. AC 150/5370-2, *Operational Safety on Airports During Construction*

h. AC 150/5300-13A, *Airport Design*

i. AC 150/5210-18, *Systems for Interactive Training of Airport Personnel*

j. AC 150/5200-30, *Airport Winter Safety and Operations*

k. AC 150/5210-21, *Airport Surface Safety Training Programs For Mechanics and Ramp Personnel*

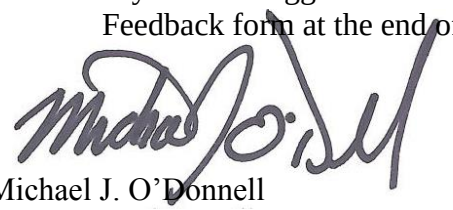
l. AC 00-65, *Towbar and Towbarless Movement of Aircraft*

3. To view electronic copies of the ACs listed above, visit the FAA website at http://www.faa.gov/regulations_policies/advisory_circulars/.

4. FAA Order 5200.10, Procedures for Conducting Investigations of Vehicle/Pedestrian Deviations https://www.faa.gov/airports/resources/publications/orders/

8 **Feedback on this AC.**

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.



Michael J. O'Donnell
Director, Office of Airport Safety and Standards

CONTENTS

Paragraph **Page**

CHAPTER 1. VEHICLE ACCESS PROCEDURES AND REGULATORY REQUIREMENTS 1-1

1.1 **Airport Procedures and Policies for Vehicle Access.** 1-1

1.2 **Regulatory Change.** 1-1

1.3 **Ground Vehicle Operations During Construction.** 1-1

CHAPTER 2. TRAINING 2-1

2.1 **Vehicle Operator Requirements.** 2-1

2.2 **Training Requirements.** 2-1

CHAPTER 3. VEHICLES 3-1

3.1 **Vehicles on Airports.** 3-1

3.2 **Vehicular Access Control.** 3-2

3.3 **Vehicle Requirements.** 3-3

3.4 **Vehicle Operations.** 3-4

CHAPTER 4. EMERGENCY OPERATIONS AND OTHER NON-ROUTINE OPERATIONS 4-1

4.1 **Introduction.** 4-1

4.2 **Planning Meetings for Non-Routine Operations.** 4-1

CHAPTER 5. SITUATIONAL AWARENESS 5-1

5.1 **Training for Situational Awareness.** 5-1

5.2 **Movement and safety areas Improvements to Increase Situational Awareness.** 5-1

CHAPTER 6. ENFORCEMENT AND CONTROL 6-1

6.1 **Enforcement Procedures.** 6-1

6.2 **Control Issues.** 6-1

APPENDIX A. GROUND VEHICLE ACCESS PROGRAM TRAINING CURRICULUM A-1

APPENDIX B. SAMPLE GROUND VEHICLE OPERATIONS TRAINING MANUAL B-1

APPENDIX C. SAMPLE LETTER OF AGREEMENT GUIDANCE AND DETAILS C-1

CHAPTER 1. VEHICLE ACCESS PROCEDURES AND REGULATORY REQUIREMENTS

1.1 Airport Procedures and Policies for Vehicle Access.

Airport operators are ultimately responsible for establishing procedures and policies for vehicle access and operation on the movement and safety areas of the airport. Aircraft can also act as vehicles. When an aircraft is not intended for flight, anyone (except pilots) taxiing or towing an aircraft needs vehicle training to access the movement and safety areas of the airport. The airport operators may provide the employer, organization, or person (if the aircraft is privately owned) with procedures and policies to train their personnel. Airport operators can also incorporate vehicle and pedestrian operations and enforcement into tenant leases and agreements. The airport operator is accountable for the training and actions of all airfield vehicle operators approved to operate on the airport. The FAA Office of Airports is responsible for investigations and enforcement, where applicable, for any potential violations of all vehicle/pedestrian deviations. However, the FAA Flight Standards District Office is responsible for investigating and enforcing any potential violations of a mechanic taxiing an aircraft.

1.2 Regulatory Change.

Establishing procedures for the safe and orderly access to the movement and safety areas, as well as procedures to operate in those areas, are required at all certificated airports under 14 C.F.R. §139.329(b). Initial and recurrent training in procedures for access to the movement and safety areas are required for all persons under revised §139.303(c). Additionally, initial and recurrent training is required for all persons, under revised § 139.329(e).

1.3 Ground Vehicle Operations During Construction.

Each bidding document, such as construction plans and/or specifications, used for development work on an airport, or for installing an air navigation facility (NAVAID), will incorporate a section on ground vehicle operations on airports during construction activity if the project is funded through the Airport Improvement Program (AIP). The airport operator is encouraged to coordinate this plan with the local FAA Technical Operations office if the proposed construction affects their routes to and from their equipment worksites. Additional guidance on developing construction plans and/or specifications can be found in Appendix 1 of AC 150/5370-2, *Operational Safety on Airports during Construction.*

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CHAPTER 2. TRAINING

2.1 Vehicle Operator Requirements.

Vehicle operators on airports face conditions that are not normally encountered on public streets and highways. Therefore, anyone with vehicular access to the movement and safety areas, and a need to be there, must have an appropriate level of knowledge of airport rules and regulations. The airport's ground vehicle driving program can give this information. Airport operators can require vehicle operators maintain a current driver's license, and may establish identification requirements that would permit the operation of a vehicle on the movement and safety areas of an airport. Any person expected to operate on the movement and safety areas should be qualified and authorized to operate in the environment.

2.2 Training Requirements.

Under Part 139, all personnel with duties requiring access to the movement and safety areas are required to have initial and recurrent training. We encourage non-certificated airports to develop a driver training program appropriate to their airports' needs.

2.2.1 Sample Training Curriculum.

Appendix A includes a sample training curriculum. Airport operators may include this curriculum in initial, recurrent, and/or remedial instruction of airport employees, government employees, tenants, contractors, and other users with access to the movement and safety areas of the airport. The airport operator or his/her designated representative will retain records of this training for 24 months after an individual's access to the movement and safety areas ends. Escorts are to be properly trained. Those being escorted who intend to drive and follow the escort should be briefed on staying with the escort at all times. The airport operators may develop formalized procedures for escorting. Airport operators might find it beneficial to have a tiered program requiring different levels of training based on the type of airfield, movement, and non-movement areas access. Operators may modify these documents to meet their individual situations, such as o one for vehicles operated on the movement area, one solely focused on the apron areas, and others as required. There also are commercial driving simulators available for airport driver training.

2.2.2 Mandatory Requirements for Initial, Recurrent, and Remedial Training.

2.2.2.1 Initial Training.

For Part 139 airports, initial training is the training provided to a new employee or airport user allowing a driver to demonstrate how to safely operate a vehicle under the airport's procedures, while functioning independently on the movement and safety areas. Airports may choose to conduct other training for operators who will drive in the non-movement area. A sample Ground Vehicle Operating Familiarization Program Training Record is in Appendix B.

2.2.2.2 **Recurrent Training.**

Recurrent training (required for part 139 certificated airports) is the training provided to an employee or airport user every twelve Consecutive Calendar Months (CCM) to enable that person to maintain a satisfactory level of proficiency. An example of twelve CCM is when training occurs on July 1, 2014 and the training remains valid through July 31, 2015. The training would expire on August 1, 2015. Appropriate schedules for recurrent training will vary widely from airport to airport and from one employee to another. Airport operators should consider requiring annual recurrent training when a vehicle operator renews an expired airport ID badge, or when a tenant renews a lease agreement.

2.2.2.3 **Remedial Training.**

Remedial training is required when a violation of the rules and regulations is committed. Use remedial training with the chosen enforcement action (see Chapter 6 Enforcement and Control).

2.2.3 On-the-Job Training.

The FAA also recommends on-the-job training before personnel have unescorted access to the movement and safety areas of the airport. Supervised vehicle operations and practical exams are the recommended training curriculum process.

2.2.4 Training Format.

Airports use a variety of methods, to include "train the trainer" for instructing ground vehicle operators. The airport operator is accountable for the training and actions of all airfield vehicle operators approved to operate on the airport. In some cases, airport operator delegates the requirement of employee training to airport tenants or a contractor. Airport operator will annually validate any training program that is provided to or used by the tenants for ground vehicle operations on the airport. Some airport operators choose to include training manuals or vehicle-operating requirements as part of tenant lease or use agreements. An airport operator may choose to distribute training manual information via a web page, videos, or booklets. Formal classroom instruction provided by the airport operator or tenant can include either personal instruction or a computer-based interactive training system. (See AC 150/5210-18, *Systems for Interactive Training of Airport Personnel*.)

2.2.5 Testing.

The airport operator or a designated representative can test trainees on the information presented. In addition to standard question and answer classroom testing methods, potential ground vehicle operators can demonstrate their proficiency in operating a vehicle on the movement and safety areas before authorizing driving privileges.

CHAPTER 3. VEHICLES

3.1 Vehicles on Airports.

Airport operators should keep vehicular and pedestrian activity on the movement and safety areas on the airport to the minimum required for operations. Vehicles on the movement and safety areas on the airport may be limited to those vehicles necessary to support the operation of aircraft services, cargo and passenger services, emergency services, and maintenance of the airport. Vehicles on the movement area should be limited to those necessary to inspect and maintain the movement areas, as well as emergency vehicles responding to an aircraft emergency. Vehicles should use service roads or public roads in lieu of crossing movement areas whenever possible. When activities need to take place in the RSA, they should occur either between aircraft operations or when a runway is closed via NOTAM.

3.1.1 Runway Crossings.

When necessary, runway crossing should occur at the departure runway end rather than the midpoint. An aircraft has more time and runway length to react if the vehicle incursion is at the opposite end of the runway from the aircraft.

3.1.2 Aircraft Operations.

Every airport will require individual solutions to prevent vehicle or pedestrian traffic from endangering aircraft operations. Aircraft ALWAYS have the right-of-way over vehicles when maneuvering on non-movement areas. Aircraft also have the right-of-way on the movement areas, except when the Airport Traffic Control Tower (ATCT) has specifically instructed an aircraft to hold or give way to vehicle(s) on a runway or taxiway.

3.1.3 Vehicle Marking and Lighting.

Vehicles that routinely operate on the movement and safety areas will be marked or flagged for high daytime visibility and, if appropriate, lighted for nighttime operations. Vehicles that are equipped with marking and lighting devices can escort vehicles that are not marked and lighted. (See AC 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport*.) Vehicles needing intermittent identification can be marked with magnetically attached identification markers, which are commercially available.

3.1.4 Runway Safety Areas.

3.1.4.1 The Runway Safety Area (RSA) must normally be clear at all times during air carrier/aircraft operations. However, there may be situations and/or circumstances where airport operations require vehicles or equipment to be in the RSA for a limited amount of time. Examples may include scheduled or unscheduled NAVAID maintenance/repair, mowing operations, or other airport safety-related circumstances where personnel and equipment will be in the RSA during air carrier/aircraft operations. When circumstances

allow, drivers will drop needed equipment within the RSA and park the vehicle outside the RSA.

3.1.4.2 A Letter of Agreement (LOA) is required at each towered airport to clarify the specific activities allowed in the RSA during air carrier/aircraft operations. This LOA will include the airport operator, the local Air Traffic Control Tower (ATCT), FAA Technical Operations, and any other airport tenant that may be permitted into the RSA during air carrier/aircraft operations. The LOA will describe the specific procedures for personnel and equipment in the RSA during air carrier/aircraft operations. Additionally, the LOA must also emphasize that vehicles avoid the Instrument Landing System (ILS) or Localizer arrays during low visibility conditions. Standard communication requirements between the ATCT and individuals operating in the RSA should be established in accordance with Order 7110.65. Any LOA between the airport operator and the ATCT must be included in the airport operator's Airport Certification Manual (ACM). See Appendix C, Sample Letter of Agreement for guidance and details on creating the LOA. Appropriate procedures must be implemented to notify air carriers and pilots when personnel and equipment are in the RSA.

3.1.4.3 The LOA's will be placed in the airport's ACM, if certificated. Office of Airport Regional Divisions will forward any issues associated with the LOA to the Office of Safety and Operations (AAS-300). AAS-300 will coordinate with ATO, the Office of Airports Regional Division, and the airport as required.

3.1.5 Surface Movement Guidance and Control System (SMGCS).

SMGCS is a system of lighting, markings, and signs on the airport that allow pilots to continue to operate in bad weather below minimums. Low Visibility Operations (LVO) allows an airport to continue operation when weather conditions deteriorate significantly below 1200 feet Runway Visual Range (RVR). Drivers need to be aware of and trained in this area to be safe when aircraft are moving around the airport during SMGCS condition. Only airports that have an active SMGCS program in use to control aircraft and vehicles in the movement area should train on it. For additional information on the SMGCS Plan, refer to AC 120-57, *Surface Movement Guidance and Control System*.

3.2 **Vehicular Access Control.**

Controlling vehicular activity on the movement and safety areas of an airport is vitally important. The airport operator is responsible for developing procedures, procuring equipment, and providing training on vehicle operations to ensure aircraft and personnel safety. Even with the most sophisticated procedures and equipment, vehicle operators need training to achieve safety. The airport operator should give special consideration to

training temporary operators, such as construction workers, even if escorts are being provided.

3.2.1 Airports with an Operating Air Traffic Control Tower (ATCT).

At airports with an operating ATCT, controllers and vehicle operators can use two-way radios to control vehicles when on the movement area. To accomplish this task, the FAA at each towered airport is creating with the airport operator a letter of agreement outlining standard operating procedures to include delineating movement and non-movement areas. When there is construction on an airport, whether federally funded or not, the airport operator can follow the ground vehicle practices contained in AC 150/5370-2, *Operational Safety on Airports During Construction*.

3.2.2 Airports without an Operating ATCT.

At airports without an operating ATCT, vehicles, fixed-based operators, or others can use two-way radio control. Everyone should pay attention to frequencies used by aircraft and announce intentions on Common Traffic Advisory Frequency (CTAF) to avoid inadvertent incidents and or accidents while operating on the movement and safety areas.

3.2.3 Restricting Movement and Safety Areas Access.

3.2.3.1 Inadvertent entry by vehicles onto movement and non-movement areas of an airport poses a danger to both the vehicle operator and aircraft on the airport. Methods for controlling access to the movement and safety areas will vary depending on the type and location of the airport. The ACM is a useful tool for accomplishing this. Airports may erect a fence or provide for other natural or physical barriers around the entire airport, in addition to providing control measures at each access gate, such as guards, magnetic card activated locks, or remotely controlled locks.

3.2.3.2 Gates may either be opened/closed electronically or secured by lock and chain. The FAA strongly encourages Airport Operators to change access gate codes regularly. A best practice that an airport may wish to consider is also to assign different codes to different gates. Physical barriers might include natural objects, such as earthen berms, large boulders, tree trunks, and manmade culverts that could help control remote vehicle access points.

3.3 **Vehicle Requirements.**

Requirements for vehicles will vary depending on the airport, the type of vehicle, and where the vehicle will operate on the airport. An airport operator should limit vehicle operations on the movement areas of the airport to only those vehicles necessary to support the operational activity of the airport. Airport operators might find it beneficial to have a tiered program requiring different levels of training based on the type of airfield, movement, and non-movement areas access.

3.3.1 Vehicle Inspection Programs.

Some airports have benefited from establishing their own vehicle inspection program to ensure that all vehicles are maintained in a safe operating condition. In establishing vehicle requirements, some items to consider include:

1. Marking and identifying vehicles.
2. Establishing fire extinguisher or other equipment requirements for vehicles, such as Super Tugs or Specialty Vehicles.
3. Placing in all vehicles a current placard diagram depicting the airport's movement area, including Hot Spots. Aircraft being taxied or towed are exempt from placard diagram placement. The diagram can display prominent landmarks and/or perimeter roads.
4. Placing in vehicles operating in the movement area a placard showing the meaning of ATCT light gun signals, as well as airfield sign, lighting, and marking information.
5. Establishing vehicle condition requirements and inspection.
6. Ensuring appropriate insurance coverage.

3.4 **Vehicle Operations.**

The airport's rules and regulations for vehicle operations should provide adequate procedures for the safe and orderly operation of vehicles and aircraft that are taxied or towed by anyone on the movement and safety areas of the airport. In developing such procedures, airport operators should consider:

1. Requiring vehicle operators and anyone authorized to taxi or tow an aircraft, an ability to communicate in and understand the English language. English language proficiency rests with the hiring authority.
2. Requiring that vehicles operating on the movement areas have radio contact with ATCT or are escorted by a radio-equipped vehicle. This is a requirement of Part 139.329 (b) for certificated airports.
3. Requiring specific procedures for vehicle operations on airports without an operating ATCT.
4. Requiring advanced notice and approval for operating a non-airport owned vehicle on the movement area.
5. Establishing speed limits.
6. Establishing procedures to reduce distracted driving. This can include reducing personal calls and texting on mobile devices while vehicle is in motion.
7. Prohibiting:
    a. Passing other vehicles and taxing aircraft;
    b. Leaving a vehicle unattended and running;
    c. Driving under an aircraft except when servicing the aircraft; and
    d. Driving under passenger bridges.

8. Determining when drivers must use vehicle lights.
9. Using dedicated vehicle lanes and perimeter roads whenever possible.
10. Designating where vehicles may and may not park.
11. Establishing rules of right-of-way (e.g. for aircraft, emergency vehicles, other vehicles).
12. Designating areas where vehicles may be serviced.
13. Establishing procedures for inoperative radios while on a movement area.
14. Require reporting of all accidents involving ground vehicles on the movement and safety areas.
15. Require making the vehicle operator responsible for passenger's behavior in the movement area.
16. Ensuring each aircraft operator maintains a Memorandum of Understanding (MOU) with the airport to conduct tow operations.
    a. Elements of the MOU can include but are not limited to:
        i. Compliance with AC 00-65, *Towbar and Towbarless Movement of Aircraft*
        ii. Local Operating Conditions
            1. Low Visibility
            2. Weather
            3. Driving Routes
            4. Time Constraints (placed on movement of aircraft)
            5. Tug-Type Requirements

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CHAPTER 4. EMERGENCY OPERATIONS AND OTHER NON-ROUTINE OPERATIONS

4.1 Introduction.

Airport operators allow a number of non-routine operations to occur on the movement and safety areas of the airport. These include airfield construction, airshows, aircraft static displays, Very Important People (VIP) arrivals/departures, commercial photo shoots, and a host of other activities. In addition, airport operators can recognize and prepare for the unique challenges to vehicle operations during non-routine operations. Airport operators can review non-routine operations that involve ground vehicles and develop vehicle operation procedures to accommodate these special operations.

4.2 Planning Meetings for Non-Routine Operations.

Planning meetings associated with non-routine activities offer an opportunity to review driving rules and regulations, communications and procedures, and air traffic control procedures as well as NAVAID requirements that can be affected by vehicle operations and other important operational issues. These meetings can help with paying special attention to the following activities:

4.2.1 Movement and Safety During Construction.

The airport operator or his/her designated representative can develop procedures, assess equipment, and ensure training has occurred on vehicle operations for aircraft safety during construction as specified in AC 150/5370-2, *Operational Safety on Airports During Construction*.

4.2.2 Emergency Response/Mutual Aid.

Many airports rely on local emergency services to provide aircraft rescue and firefighting services or emergency medical services. Airport operators can ensure that such emergency service providers receive initial and recurrent training in the subject areas identified in **Chapter 3, Vehicles,** also maintain records of such training. Alternatively, the airport may escort the responders. In addition, any mutual aid agreement between the local emergency service providers and the airport operator can specify vehicle operations training requirements.

4.2.3 Snow and Ice Removal.

Airport Operators who use contractors for snow and ice control operations can ensure agreements include vehicle operations procedures, training requirements, consequences of non-compliance, and vehicle communications requirements. The FAA recommends that, when possible, airport operators limit contractors to non-movement areas. When an ATCT is not in operation, or there is no ATCT, airports can develop procedures to advise air traffic on the CTAF of any intentions to remove snow and ice in the movement area.

4.2.4 Low-Visibility Operations.

Additional consideration can be given to vehicle operations during low visibility. Poor weather conditions (snow, fog, rain, etc.) may obscure visual cues, roadway markings, and airport signs. During low visibility conditions, particular detail can address the emphasis of avoiding ILS or Localizer arrays, e.g. mowing operations and snow removal.

CHAPTER 5. SITUATIONAL AWARENESS

5.1 Training for Situational Awareness.

There are ways to enhance situational awareness. A ground vehicle operator's training program may concentrate on having vehicle operators visually scan fixed and moving objects coming into the vehicle's path. Airport operators can also promote using clear and concise communications by vehicle operators. Most importantly, airport operators can alert vehicle operators to distractions caused by social interactions while operating a vehicle on the movement and safety areas. Having an airport diagram and notepad available in each vehicle to record movement instructions is considered a best practice when communicating with ATCT.

5.2 Movement and Safety Areas Improvements to Increase Situational Awareness.

Airport operators may also be able to increase situational awareness for vehicle operators with enhancements on the movement and safety areas. Such enhancements may include establishing dedicated marked routes for vehicles that avoid high activity, congested areas, or blind spots. Eliminating or relocating fixed objects that hinder a vehicle operator's line of sight or block radio transmissions may also enhance safety. Some airport operators may soon have an added aid in the fight against distractions – Automatic Dependent Surveillance - Broadcast (ADS-B) at select airports. This system enables equipped aircraft and ground vehicles to continually broadcast information, such as identification, current position, altitude, and velocity. More information on this technology will be available in a future advisory circular on Ground Vehicle ADS-B Operations. Technology can't totally replace clearing for aircraft. You must ensure that you look both ways down the runway to visually acquire aircraft landing or departing even if you have a clearance to cross.

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CHAPTER 6. ENFORCEMENT AND CONTROL

6.1 Enforcement Procedures.

Airport operators should establish consequences for non-compliance of airport rules, including penalties for violations. Tenant lease or use agreements may include these enforcement provisions.

6.2 Control Issues.

Listed below are some control issues that airport operators can address as part of a control program for ground vehicle and anyone taxiing or towing aircraft. This list is not all inclusive.

1. Implementing a tiered identification badging system that permits easy recognition of a vehicle operator's permitted driving area privileges. A recommended practice is that the airport should have the ability to turn badges off for violations, or when access is no longer needed.
2. Prohibiting transferring registration media to different vehicles.
3. Creating policies for surrendering permits to airport management when a vehicle is no longer authorized entry into a facility.
4. Conducting periodic checks to ensure that only properly authorized persons operate vehicles, and only properly authorized personnel taxi or tow aircraft on the movement and safety areas.
5. Creating a system to control commercial or delivery truck movement onto and out of the movement and safety areas of an airport.
6. Briefing or training for commercial drivers if they are permitted direct access to the movement and safety areas.
7. Implementing a progressive penalty policy for violations of the airport's driving program.

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APPENDIX A. GROUND VEHICLE ACCESS PROGRAM TRAINING CURRICULUM

A.1 Purpose of the Training Curriculum.

A.1.1 The purpose of the Ground Vehicle Access Program training curriculum is to provide airport operators with a minimum list of training topics for educating vehicle operators, with access to the movement and safety areas of an airport. This includes anyone taxiing or towing aircraft who is not a pilot. Each individual airport has unique situations that might require site-specific training. Airport operators may use this training curriculum as a guide for developing and implementing a detailed training program tailored to the airport's individual situation.

A.1.2 The training program provides vehicle operators and anyone taxiing or towing aircraft with the level of training necessary for their positions to operate safely on the movement and safety areas of an airport and avoid causing a runway incursion. Airports may choose to tailor their specific programs from the items listed below:

1. Infield aircraft navigation aids
2. Identifying a given point on a grid map or other standard map used at the airport
3. Applicable airport rules, regulations, or procedures for vehicle operations
4. Airport layout, including runways and taxiway designations
5. Known hot spots
6. Boundaries of movement, non-movement, and safety areas
7. Interpretation and color coding of airfield signs, pavement markings, and lighting
8. Location and understanding of critical areas associated with instrument landing system (ILS) and very high frequency omnidirectional ranges (VORs)
9. Proper terminology (including phonetic alphabet) and procedures for radio communications with the ATCT
10. ATCT light gun signals
11. Established routes for emergency response vehicles
12. Dangers associated with jet blast and prop wash
13. Traffic patterns associated with each runway (left or right) and location of each leg (i.e., downwind, base, final, and crosswind)
14. Situational awareness (staying alert in the environment of operation)

A.2 Training Program for Vehicle Operations on Apron Only.

An airport operator may choose to develop tiered training programs for vehicle operators, such as airline employees and other tenants, who are restricted to operating ground vehicles only on the apron areas. This will allow them to have knowledge of the boundaries associated with the area.

A.3 Areas of Training.

All drivers should have training in the following areas:

A.3.1 Discussion of Runway Incursions, Airfield Safety, and Security.

Training Outcome(s): Trainee will be able to define a runway incursion, describe how to avoid causing an incursion, what they can do if involved in an incursion, and explain the benefits of airfield safety/security.

A.3.2 Definitions and Terms.

Training Outcome(s): Trainee will be knowledgeable of airport signage, runway markings, lighting, and the terms used on an airport.

A.3.3 Vehicle Operating Requirements.

1. Authorized Vehicles and Vehicle Identification
2. Vehicle Lighting
3. Vehicle Insurance
4. Vehicle Inspection
5. Vehicle Parking
6. Accident Reporting
7. Perimeter Roadways
8. Aircraft Lighting

A.3.4 Anyone Taxiing or Towing an Aircraft Requirements.

The employer will provide the airport operator with documentation showing that the individual is qualified to start, run, taxi or tow that particular type of aircraft.

A.3.5 Rules and Regulations.

1. Review
2. Noncompliance/Penalties

Training Outcome(s): Trainee will be knowledgeable of ground vehicle and aircraft taxiing and towing rules and regulations.

A.3.6 Testing.

3. Written Test
4. Practical Test

Training Outcome(s): Trainee can pass a written examination with a minimum score of 70 percent.

A.3.7 Airport Familiarization at Least One Day and One Night Evaluation or as Required for Job Performance.

1. Runway Configuration/Safety Area

2. Taxiway Configuration/Safety Area
3. Movement Areas and Non-Movement Areas
    a. Confusing Areas and designated Hot Spots
4. Airport Lighting
    a. Runway
        i. Runway Edge Lights
        ii. Centerline Lights
        iii. Touchdown Zone
        iv. Taxiway Lead-Off Lights
    b. Threshold
        i. Runway Approach Light System
    c. Taxiway
        i. Taxiway Edge Lights
        ii. Taxiway Centerline Lights
        iii. Stop Bars
        iv. Runway Guard Lights
5. Airfield Signage (Airport Specific)
    a. Runway Position Holding Sign
        i. Runway Location Sign
        ii. Destination Sign
        iii. Information Sign
        iv. Approach Sign
    b. Taxiway Location Sign
    c. ILS Critical Area Sign
    d. Direction Sign
    e. Distance Remaining Sign
6. Airfield Markings (Airport Specific)
    a. Runways
        i. Centerline
        ii. Edge Markings
        iii. Runway ID Numbers
        iv. Threshold Markings
        v. Fixed Distance Markers
        vi. Hold Short Lines
    b. Taxiways
        i. Hold Lines

ii. ILS Hold Line
iii. Geographic Position Markings
iv. Centerline and Enhanced Centerlines
v. Edge Markings

c. ILS Critical Areas
d. Non-Movement Area Boundary Marking
e. Surface Painted Signs

7. Airport NAVAIDS and Visual Approach Aids
   a. Location
   b. Non-interference

Training Outcome(s): Trainee will be able to label all critical parts on the airport, identify, and explain the purpose of all marking, lighting, and signs on the airport.

A.3.8 Communications.

1. Ground Vehicle, anyone towing an aircraft, and anyone taxiing an aircraft Communications
   a. Radio Frequencies
   b. Procedural Words and Phrases
2. Aviation Phonetic Alphabet
3. Aviation Terminology and phrases
4. Procedures for Contacting the ATCT
5. Airfield Communications at Airports without Operating ATCT
6. Light Gun Signals as a means of communication
7. Procedures for when the vehicle operator or anyone taxiing or towing aircraft are lost or disoriented in the movement areas or RSA, etc.
   a. Description of how to respond to Light Gun Signals
   b. Description of how to Signal the Tower

Training Outcome(s): Trainee will be able to adequately send and receive radio messages as well as interpret light gun signals and respond properly.

APPENDIX B. SAMPLE GROUND VEHICLE OPERATIONS TRAINING MANUAL

NOTE: This sample training manual provides airport operators with a template for developing and implementing proposed policies or procedures for controlling ground vehicles, or taxiing, and towing aircraft. This includes equipment access in the movement and safety areas of an airport. Airport operators may use the format below but adapt the requirements to specific conditions found on their airport. The Operator would fill in the appropriate blanks or blocks of text and/or revise the document for specific airport conditions.

Section 1 covers the Authority, Applicability, and Definitions of the Ground Vehicle Operation Manual. It includes: driving, taxiing or towing aircraft rules and regulations that could be adopted by the airport operator.

Section 2 would serve as a suggested driver, taxiing, or towing aircraft training for the Non-Movement Area Manual.

Section 3 would serve as a suggested driver, taxiing, or towing aircraft training for the Movement Area Manual. In this section, the airport operator could add or delete information as it applies to the airport. For example, if the airport has no instrument approach, reference to the ILS signs and protection of critical areas could be deleted. Also, the airport operator is encouraged to replace illustrations of signs with those found on the airport.

Section 4 would serve as a suggested driver, taxiing, or towing aircraft training for Communications on the airport.

Finally, there is a sample Ground Vehicle Operations Training Record that can be modified by the airport operator to document training on the airport.

Section 1. Airport Driving and Anyone Taxiing or Towing Aircraft Rules and Regulations

1.1 Authority for Implementation of Rules and Regulations. The (NAME) Airport operates under the authority of (JURDISTICTION). (CITY/COUNTY ORDINANCE OR STATE STATUTE) has granted the (AIRPORT OPERATOR) the authority to make bylaws for the management and supervision of its airport affairs.

1.2 Applicability. This regulation applies to all users of, and persons on any portion of, the property owned or controlled by (Airport Operator). No persons are exempt from airport operating training requirements for operating a vehicle on the movement and safety areas of an airport. Tenant organizations must be responsible for the dissemination of, accessibility to, and compliance with these rules and regulations by their employees.

These Rules and Regulations may be amended, changed, or modified by (Airport Operator), as necessary.

1.3 Definitions. The following terms are defined as indicated in this section for the purpose of this Ground Vehicle Operation Training Manual. *(The airport operator can include only those definitions applicable to its airport and conditions.)*

1.3.1 **Accident**–a collision between one aircraft or vehicle and another aircraft, vehicle, person, or object that results in property damage, personal injury, or death.

1.3.2 **Air Carrier Apron**–an apron for air carriers. Only authorized personnel and vehicles may operate on this apron. Unauthorized vehicles and aircraft are prohibited from operating on it.

1.3.3 **Air Operations Area (AOA)** – the air operations area includes paved or unpaved areas used or intended to be used for the unobstructed movement of aircraft, in addition to its associated runways, taxiways, or aprons. Commonly refers to anything within the secured and fenced-in area of the airport.

1.3.4 **Airport Traffic Control Tower (ATCT)**–operated by an appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

1.3.5 **Aircraft**–a device that is used or intended to be used for flight in the air.

1.3.6 **Airport**–(NAME) International Airport Facility, owned and operated by (Airport Operator), including all improvements and equipment existing or to be developed.

1.3.7 **Apron**–a defined area on an airport or heliport intended to accommodate aircraft for the purposes of parking, loading and unloading passengers or cargo, refueling, or maintenance.

1.3.8 **Common Traffic Advisory Frequency (CTAF)**–radio frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating ATCT or when the tower is closed. The CTAF may be a UNICOM, MULTICOM, FSS, or tower frequency and is identified in appropriate aeronautical publications. (See below for definitions of UNICOM, MULTICOM, and FSS.)

1.3.9 **Fixed-Based Operator (FBO)**–a person, firm, or organization engaged in a business that provides a range of basic services to general aviation. Services may include the sale and dispensing of fuel, line services, aircraft parking and tie-down, pilot and passenger facilities, airframe and power plant maintenance, aircraft sales and rental, and pilot instruction.

1.3.10 **Flight Service Station (FSS)**–air traffic facilities that provide pilot briefings, en route communications, and visual flight rules search and rescue services; assist lost aircraft and aircraft in emergency situations; relay air traffic control clearances; originate Notices to Airmen; broadcast aviation weather and National Airspace System information; receive and process instrument flight rules flight plans; and monitor NAVAIDs. In addition, at selected locations, FSSs provide En Route Flight Advisory Service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of trans-border flights.

1.3.11 **Foreign Object Debris (FOD)**–debris that can cause damage to aircraft engines, tires, or fuselage from rocks, trash, or the actual debris found on runways, taxiways, and aprons.

1.3.12 General Aviation (GA)–that portion of civil aviation that encompasses all facets of aviation except air carriers holding a certificate of public convenience and necessity.

1.3.13 Ground Vehicle–all conveyances and aircraft not operated for the purpose of flight, vehicles used on the ground to reposition aircraft, transport persons, cargo, fuel, or equipment.

1.3.14 ILS Critical Area–an area provided to protect the signals of the localizer and glideslope.

1.3.15 Jet Blast–jet engine exhaust or propeller wash (thrust stream turbulence).

1.3.16 Law Enforcement Officer (LEO)–any person vested with police power of arrest under Federal, state, county, or city authority and identifiable by uniform, badge, and other indication of authority.

1.3.17 Light Gun–a hand-held, directional light-signaling device that emits a bright narrow beam of white, green, or red light, as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot or vehicle actions where radio communication is not available. The light gun is used for controlling traffic operating in the vicinity of the airport and on the airport movement area.

1.3.18 Mobile Fueler–a vehicle owned and/or operated by authorized agents to pump and dispense Jet A and 100 LL fuel at an airport. This may include fuel tankers, in-to-plane fueling pumpers, and hydrant carts.

1.3.19 Movement Area–the runways, taxiways, and other areas of an airport that aircraft use for taxiing, takeoff, and landing, exclusive of loading aprons and aircraft parking areas.

1.3.20 MULTICOM–a mobile service not open to public correspondence used to provide communications essential to conduct the activities being performed or directed from private aircraft.

1.3.21 Non-movement Areas–the area, other than that described as the movement area, used for the loading, unloading, parking of aircraft. This may include the apron areas and on-airport fuel farms.

1.3.22 Operator–any person who is in actual physical control of an aircraft or a motor vehicle.

1.3.23 Owner–a person who holds the legal title of an aircraft or a motor vehicle.

1.3.24 Protected Area–the protected area of a surface intended for landing or takeoff includes the area inside the runway hold position markings (e.g., hold line) on paved taxiways or bridges and the designated runway safety area.

1.3.25 Restricted Areas–areas of the airport posted to prohibit or limit entry or access by the general public. All areas other than public areas.

1.3.26 Runway–a defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length.

1.3.27 Runway Incursion–any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

1.3.28 Runway in Use or Active Runway–any runway or runways currently being used for takeoff or landing. When multiple runways are used, they are all considered active runways.

1.3.29 Runway Safety Area–a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes (Typically 250 feet off the runway centerline and 1,000 feet off each end or as required) in the event of an excursion, overshoot, or undershoot from the runway. Note: Guidance for RSA is located in AC 150/5300-13A, *Airport Design*.

1.3.30 Surface Incident- Unauthorized or unapproved movement within the designated movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight.

1.3.31 Surface Movement Guidance and Control System (SMGCS)–a system of guidance, control, and regulation of all aircraft, ground vehicles, and personnel of the airport during low-visibility operations. Guidance relates to facilities and information necessary for pilots and ground vehicle operators to find their way about the airport. Control or regulation means the measures necessary to prevent collisions and to ensure that traffic flows smoothly and efficiently.

1.3.32 Taxiways–those parts of the movement and safety areas designated for the surface maneuvering of aircraft to and from the runways and aircraft parking areas.

1.3.33 Tie Down Area–an area used for securing aircraft to the ground.

1.3.34 Uncontrolled Airport–an airport without an operating airport traffic control tower or when airport traffic control tower is not operating.

1.3.35 UNICOM–a non-Federal communication facility that may provide airport information at certain airports. Locations and frequencies of UNICOMs are shown on aeronautical charts and publications.

1.3.36 Vehicle or Pedestrian Deviation (V/PD)–any entry or movement on the airport movement area or safety area by a vehicle operator or pedestrian that has not been authorized by air traffic control (includes surface incidents involving aircraft operated by non-pilots, such as anyone).

1.3.37 Vehicle Service Road–a designated roadway for vehicles in a non-movement area.

1.3.38 Very High Frequency Omnidirectional Range (VOR)–a ground-based electronic navigation aid transmitting very high frequency navigation signals, 360 degrees in azimuth, oriented from magnetic north. Used as the basis for navigation in the National Airspace System.

1.3.39 Wake Turbulence–phenomenon resulting from the passage of an aircraft through the atmosphere. The term includes vortices, thrust stream turbulence, jet blast, jet wash, propeller wash, and rotor wash both on the ground and in the air.

1.4 Severability. If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of these Rules and Regulations or any part thereof is for any reason held to be unconstitutional, invalid, or ineffective by any court of competent jurisdiction or other competent agency, such decision will not affect the validity or effectiveness of the remaining portions of these Rules and Regulations.

1.5 Violation of Rules—Penalties and Suspension of Driving or Anyone taxiing or towing an aircraft Privileges. Any person, who does not comply with any of the provisions of these Rules and Regulations, or any lawful order issued pursuant thereto, will be subject to progressive penalties for repeat violations. These penalties may include being denied use of the Airport by (Airport Operator) in addition to the penalties described pursuant to Federal, state, or local authorities. *(The airport operator can tailor this section to discuss its enforcement policies.)*

1.5.1 Penalties for failure to comply with the Movement and safety areas Vehicular Traffic Regulations must consist of written warnings, suspension of movement and safety areas driving privileges, and/or revocation of movement and safety areas driving privileges. Receipt of _____ written warnings by an operator of a vehicle in any 12-month period will automatically result in suspension of movement and safety areas driving privileges. Receipt of written warnings in any 12-month period will automatically result in revocation of movement and safety areas driving privileges.

1.5.2 Based on an evaluation of the circumstances or the severity of a particular incident or incidents, the (Airport Operator) reserves the exclusive right to assess any penalty it deems appropriate at any time to any individual authorized to operate a vehicle on the movement and safety areas without regard to prior operating history.

1.5.3 Suspension of movement and safety areas driving privileges must be no less than _____ calendar days and no greater than _____ calendar days.

1.5.4 The (Airport Operator) will provide a copy of all written warnings issued to an operator to the local manager of the company owning or in possession and control of the vehicle or vehicles involved in the violation(s).

1.6 The (Airport Operator) must require any individual involved in a runway incursion or other vehicle incident to complete remedial airfield driver training.

1.7 Regulations on the Movement and Safety Areas of an Airport for Drivers and Anyone Taxiing or Towing an Aircraft.

1.7.1 Vehicle Operator and Anyone Taxiing or Towing and Aircraft Requirements.

a. All applicants must satisfactorily complete the applicable driver's training class before receiving a movement and safety areas driver's license or

badge. Non-based personnel require escort from airport qualified movement/non movement area personnel.

b. All applicants are required to pass the written test with a grade of at least ___ percent. Applicants who do not pass the written test may retake the test after additional study and a ____ day period.

c. Applicants for movement area driving, taxiing, or towing an aircraft privileges are required to successfully complete a movement and safety areas driving test by a designated representative of (Airport Operator).

d. No vehicle can be operated or anyone taxi or tow an aircraft on the movement and safety areas unless—

(1) The driver is authorized to operate the class of vehicle by an appropriate state-licensing agency and/or by the driver's employer through a company training/certification program.

(2) The driver properly displays an approved, airport-issued ID card with the Authorized Driver designation *(if applicable).*

e. For taxiing or towing an aircraft, the owner/operator needs to ensure the person is trained by the owner or aircraft operator to start, run, taxi, or tow that particular type of aircraft. When towing an aircraft with a "Towbarless tractor," to guard against if the tow bar breaks, there should be a trained person in the cockpit that can stop the aircraft.

f. No person operating or driving a vehicle on any aircraft apron should exceed a speed greater than _____ miles per hour. Factors including, but not limited to, weather and visibility should be taken into consideration when determining safe operating speed.

g. No vehicle may pass another ground vehicle in a designated vehicle roadway.

h. FAA recommends: No vehicles pass between an aircraft and passenger terminal or passenger lane when the aircraft is parked at a gate position except those vehicles servicing the aircraft. All other vehicles must drive to the rear of the aircraft and must pass no closer than

i. Moving aircraft and passengers enplaning or deplaning aircraft must have the right-of-way at all times over vehicular traffic. Vehicle drivers must yield the right-of-way.

j. No vehicle operator may enter the movement and safety areas (includes controlled and non- controlled movement areas) unless authorized by (Airport Operator) or the vehicle is properly escorted.

k. No vehicle operator or anyone taxiing or towing an aircraft can enter the movement area—

(1) Without first obtaining the permission of Airport Operator, Aircraft operator, and clearance from the ATCT to enter the movement area for taxiing or towing;

(2) Unless equipped with an operable two-way radio in communication with the ATCT; or

(3) Unless escorted by an (Airport Operator) approved vehicle and as long as the vehicle remains under the control of the escort vehicle.

(4) Anyone taxiing or towing an aircraft, without the authorization of the airport operator, must receive ATCT clearance to enter the airport movement area.

l. No person may operate any motor vehicle that is in such physical or mechanical condition as to endanger persons or property or that the (Airport Operator) considers an endangerment.

m. No person may—

(1) Operate any vehicle that is overloaded or carrying more passengers than for which the vehicle was designed.

(2) Ride on the running board or stand up in the body of a moving vehicle.

(3) Ride with arms or legs protruding from the body of a vehicle except when the vehicle was designed for such use.

n. A vehicle guide person is required whenever the vision of the vehicle operator is restricted.

o. No fuel truck may be brought into, stored, or parked within 50 feet of a building. Fuel trucks may not be parked within 10 feet from other vehicles.

p. Container carriers and tugs may tow no more carts, pods, or containers than are practical, under control, tracking properly, and safe.

q. When not serving aircraft or undertaking their intended functions, apron vehicles and equipment may be parked only in approved areas.

r. Vehicle operators should not operate or park vehicles under any passenger loading bridge.

s. No person may park a vehicle in an aircraft parking area, safety area, grass area, or in a manner that obstructs or interferes with operations in the aircraft movement area or apron area.

t. No person may park, or leave unattended, vehicles or other equipment that interfere with the use of a facility by others or prevent movement or passage of aircraft, emergency vehicles, or other motor vehicles or equipment.

u. No person may park a vehicle or equipment within ____ feet of a fire hydrant or in a manner that prohibits a vehicle from accessing the fire hydrant.

v. No person may operate a vehicle or other equipment within the movement and safety areas under the influence of alcohol or any drug that impairs, or may impair, the operator's abilities.

w. Each vehicle operator using an airport perimeter (security) gate must ensure the gate closes behind the vehicle prior to leaving the vicinity of the gate. The vehicle operator must also ensure no unauthorized vehicles or persons gain access to the movement and safety areas while the gate is open.

x. Vehicle operators must not operate vehicles in a reckless or careless manner. A reckless or careless manner is one that intentionally or through negligence threatens the life or safety of any person or threatens damage or destruction to property.

y. Vehicles may not enter the movement area or cross runways unless the operator of the vehicle has received required training and authorization from the (Airport Operator) to operate on the movement area. Whenever possible, all airport vehicles must utilize the airport perimeter and service roads to transition between areas on the airport.

z. Each vehicle operator is responsible for the activities of each vehicle passenger on the movement and safety areas of the airport.

1.7.2 Vehicle Regulations.

a. No vehicle may be operated on the movement and safety areas unless it has proper registration in the (State) or is a qualified off-road vehicle that is not normally operated on public streets but has received the approval of the (Airport Operator).

b. All vehicles operated on the movement and safety areas must have vehicle liability insurance, as required by the (Airport Operator).

c. The (Airport Operator) must approve tenant vehicles operated on the movement area. It is highly recommended the airport operator institute similar approval procedures for vehicles operated in the non-movement area. These vehicles may display a (Airport Operator) sticker or an airport-approved company logo that is at least _____ inches.

d. Carts or pieces of equipment being towed or carried after darkness must have side and rear reflectors or rear lights.

e. No vehicle must be permitted on the movement and safety areas unless—

(1) It is properly marked, as outlined in FAA Advisory Circular 150/5210-5, *Painting, Marking, and Lighting of Vehicles Used on an Airport.*

(2) It is in sound mechanical condition with unobstructed forward and side vision from the driver's seat.

(3) It has the appropriately rated and inspected fire extinguishers (fuel trucks or other vehicles).

(4) It has operable headlamps and brake lights.

f. Vehicles operating on the movement area must be equipped with operating rotating beacon or equivalent per AC 150/5210-5 as required.

g. All aircraft refueling vehicles and any other vehicles 8-feet or more in width must be equipped with clearance lights, a flashing amber beacon and flashing front, and tail lights that are activated at all times when operating on the movement and safety areas.

1.7.3 Vehicular Accidents. Operators of vehicles involved in an accident on the airport that results in injury to a person or damage to an aircraft, airport property, or a vehicle must—

(1) Immediately stop and remain at the scene of the accident.

(2) Render reasonable assistance, if capable, to any person injured in the accident.

(3) Report the accident immediately to the (Airport Operator) before leaving the scene, if possible.

(4) Provide and surrender the following to any responding (Airport Operator) personnel: name and address, airport identification card, state driver's license, and any information such personnel need to complete a motor vehicle accident report.

Section 2. Driving on the Non-Movement Areas

2.1 Non-movement areas include aprons, portions of the runway safety areas (RSA), and other areas not under control of the ATCT. Anyone authorized to operate a motorized vehicle on the movement and safety areas may do so on the non-movement areas (except RSA) without being in positive radio contact with the ATCT. These areas include—

a. Service roads

b. Cargo aprons

c. General aviation apron

d. Air carrier apron(s)

2.2 Driving. Operating within the apron areas requires the vehicle driver to exercise extreme caution as aircraft are always moving, aircraft passengers may be walking from an aircraft to the gate, and noise levels are high.

2.2.1 Vehicle drivers—

a. Never drive between safety cones or across delineated passenger walkways.

b. Watch cockpit blind spots—pilots typically cannot see behind or below the aircraft.

c. Avoid jet blast or prop wash, which can blow debris or overturn vehicles.

d. Be aware and avoid moving propellers that can cause damage, injury, or death.

e. Be aware of other vehicle movements—you may not hear them approaching due to aircraft engine noise.

f. Yield to aircraft, passengers, and emergency vehicles, which ALWAYS have the right-of-way on the Air Operations Area of the airport.

g. Pay particular attention when aircraft beacons are illuminated, as they may be moving or preparing to move. Obey the directions of flaggers (if available).

2.2.2 When traveling on the apron, always use designated vehicle service roads. Driving close to buildings, around vehicles, or aircraft is prohibited. This policy helps to establish a predictable order to vehicle movements in congested areas and helps to ensure their visibility to aircraft and other vehicles.

2.2.3 Parked aircraft may still have their engines running, so be aware of the hazards of jet blast or prop wash, which may overturn vehicles. Before an aircraft engine is started, pilots are supposed to turn on the anti-collision beacon(s) which may be flashing red or white. However, don't assume that if the beacon(s) aren't flashing that the engine(s) isn't (aren't) running. In some instances, propellers and engine spinners are marked to indicate when the engine is operating. A pilot's ability to maneuver quickly on the ground is limited. Propellers and jet engines can cause significant damage and injury to personnel. In addition, cockpit visibility prohibits the pilot from seeing under the nose or behind the aircraft and limits the pilot's ability to avoid ground vehicles.

2.2.4 **Nighttime and Poor Weather Driving Conditions.** Poor weather (snow, fog, rain, etc.) conditions can and will obscure visual cues, roadway markings, and airport signs. Vehicle operators will remain vigilant of their surroundings and operating boundaries. Watch out for snow removal equipment and aircraft operating in the vicinity under low-visibility conditions. There are additional risks present under these conditions consult AC 150/5200-30C, *Airport Winter Safety and Operations* and the airports *Snow and Ice Control Plan.*

Section 3. Driving, Taxiing or Towing Aircraft on the Movement Areas

3.1 Drivers, anyone taxiing, or towing an aircraft who are authorized to operate on the movement area require more training and vigilance since there are dangers associated with this area that are not present on non-movement areas. In addition to the principals for driving on the non-movement area, drivers and anyone that has access to the movement area must be cognizant of the meanings of airfield signs, markings, and lighting configurations. Additionally, they must be able to communicate with air traffic control (ATC) and be able to follow ATC directions. Airport Operator must have a MOU or LOA with the local ATCT regarding any specific procedures for operations on the movement areas.

3.2 ATCT Control all Movement Areas as defined: the runways, taxiways, and other areas of the airport that are used for taxiing, hover taxiing, air taxiing, and takeoff and landing of aircraft, exclusive of loading aprons and aircraft parking areas. Movement areas are considered "positive control," meaning that all vehicle operators and anyone taxiing or towing an aircraft will need permission from ATC before entering the area.

3.3 Authorized Vehicles and Anyone Taxiing or Towing an Aircraft. Only vehicles, taxiing, or towing an aircraft, that are needed for airport operations may enter a movement area with radio contact through ATCT. Therefore, fuel trucks, maintenance vehicles, catering trucks, and other non-essential vehicles will not be permitted to enter the movement areas without being escorted. Exceptions may include Airport Operator authorized (radio equipped) vehicles with appropriately trained personnel. Airport Operations/Maintenance must coordinate all other vehicle operations within the movement areas.

3.4 Taxiways.

3.4.1 Designations. Aircraft use taxiways to move to and from the aprons and the runways. Taxiways are designated by letters or by a letter/number combination such as A, B, G2, or B3. (The Airport Operator can include a diagram of the airport here with the taxiway and runway designations.)

3.4.2 Lighting. Taxiways are lighted with **blue** edge lighting and/or reflectors. Some taxiways are also lighted with **green** in-pavement, centerline lighting that also include Taxiway Lead On/Off lights, which alternate yellow/green. *(Use airport-specific example here.)*

3.4.3 Signs. The signs used on taxiways are direction, destination, location, and taxiway ending marker signs.

3.4.3.1 ***Direction and Designation Signs*** have black lettering and a directional arrow or arrows on a yellow background. The arrow indicts the direction to that taxiway, runway, or destination.

Taxiway Direction Sign

3.4.3.2 ***Location Signs*** have **yellow lettering** on a **black background.** The location sign below indicates that the operator of the vehicle/equipment is located on the named taxiway or runway. Black square, you are here.

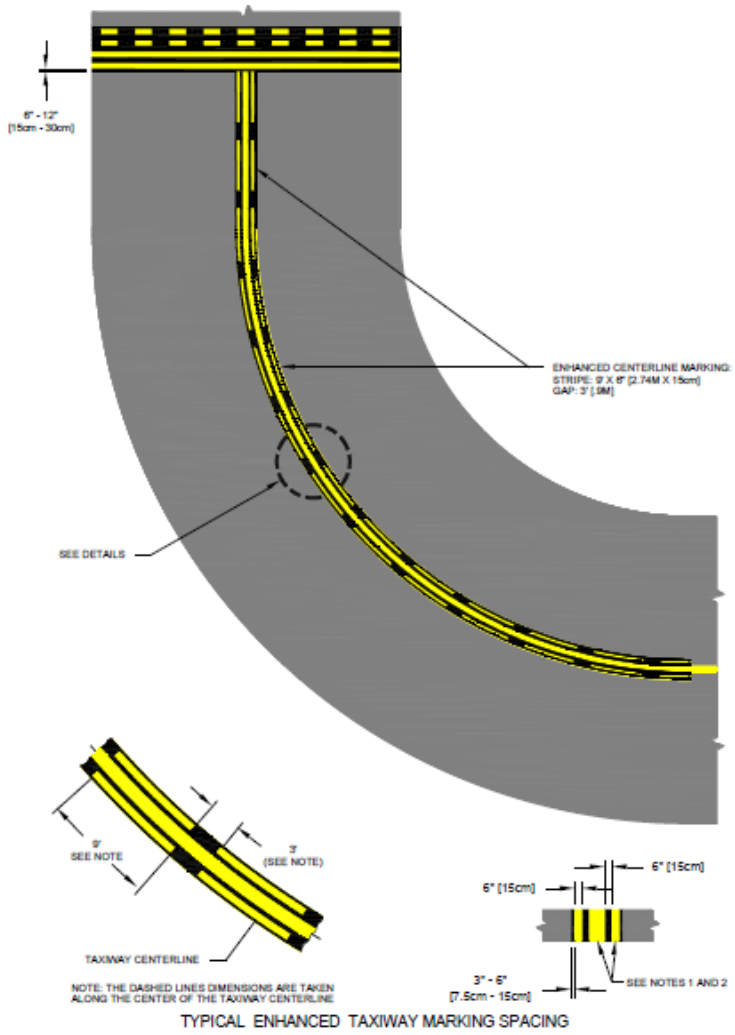
Taxiway Location Sign

3.4.3.3 ***Runway Safety Area/Object Free Zone (RSA/OFZ) and Runway Approach Area Boundary Signs,*** when required, identify the boundary of the runway safety area/OFZ or the runway approach area to the pilot and vehicle operator. The driver can use these signs to identify when the vehicle is clear of the runway environment. It has a **black inscription** that depicts the hold line marking on a **yellow background.**

Runway Safety Area/OFZ and Runway Approach Boundary Symbol

3.4.4 ***Markings.*** Pavement markings on taxiways are always yellow. The taxiway centerline is painted on all taxiways. On the edges of some taxiways, there is a solid, double yellow line or double-dashed line. If pavements are usable on both sides of the line, the lines will be dashed; if not, the lines will be solid.

3.4.4.1 **Enhanced Taxiway Centerline Markings** provide supplemental visual cues to alert pilots of an upcoming runway holding position marking (Pattern A) for minimizing the potential for runway incursions. To reinforce situational awareness before entering a runway, this safety enhancement is only used on those taxiways that directly enter a runway.

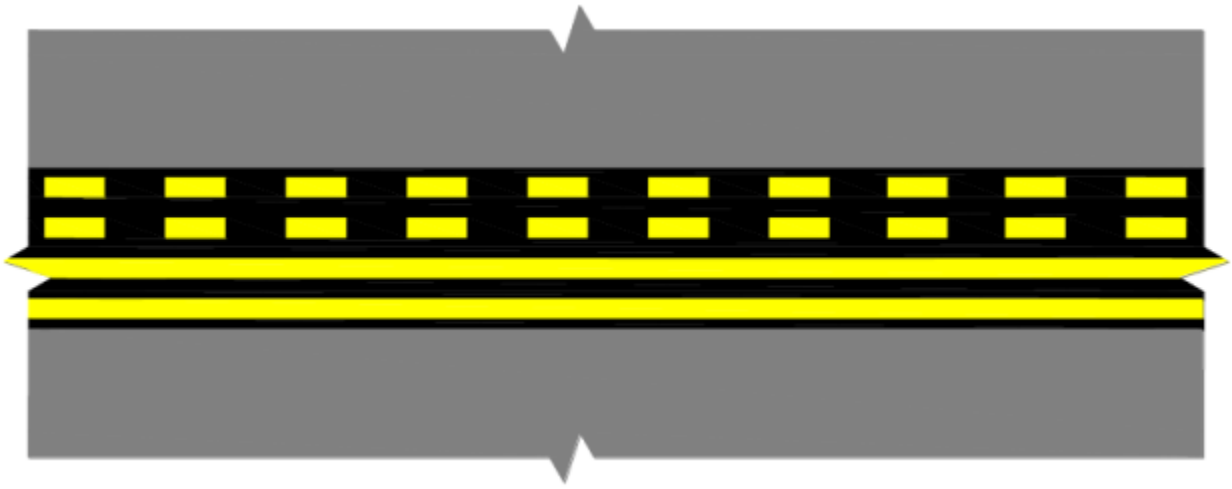


Enhanced Taxiway Centerline Markings

Notes:

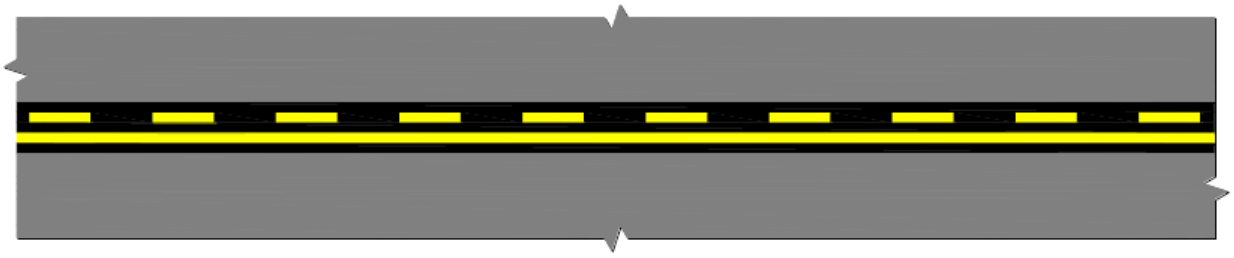
1. Dashed lines for the enhanced taxiway centerline marking are 6 inches (15 cm) in width and separated 6 inches (15 cm) from the taxiway centerline. This applies to both 6 inches (15 cm) and 12 inches (30 cm) taxiway centerline markings.
2. The taxiway centerline markings may be shifted left or right to avoid interference with the taxiway centerline lights.

3.4.4.2 ***Runway Holding Position Markings*** are located across each taxiway that leads directly onto a runway. These markings are made up **of two solid lines and two broken yellow lines** and denote runway holding position markings. These markings are always co-located with a Runway Holding Position Sign. A vehicle operator must not cross from the solid-line side of the marking without first obtaining clearance.



Runway Holding Position Marking

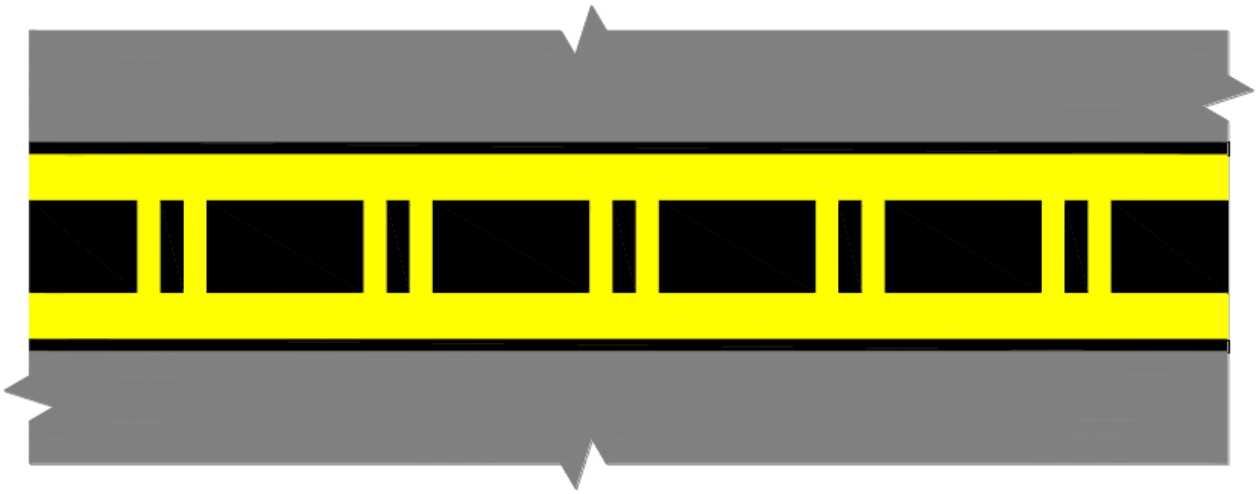
3.4.4.3 ***Non-Movement Area Boundary Markings*** consist of two yellow lines (one solid and one dashed). The solid line is located on the non-movement area side, while the dashed yellow line is located on the movement area side. A vehicle operator is not to cross from the solid-line side without first contacting the ATCT and obtaining a clearance to operate on the movement area



Non-Movement Area Boundary Marking

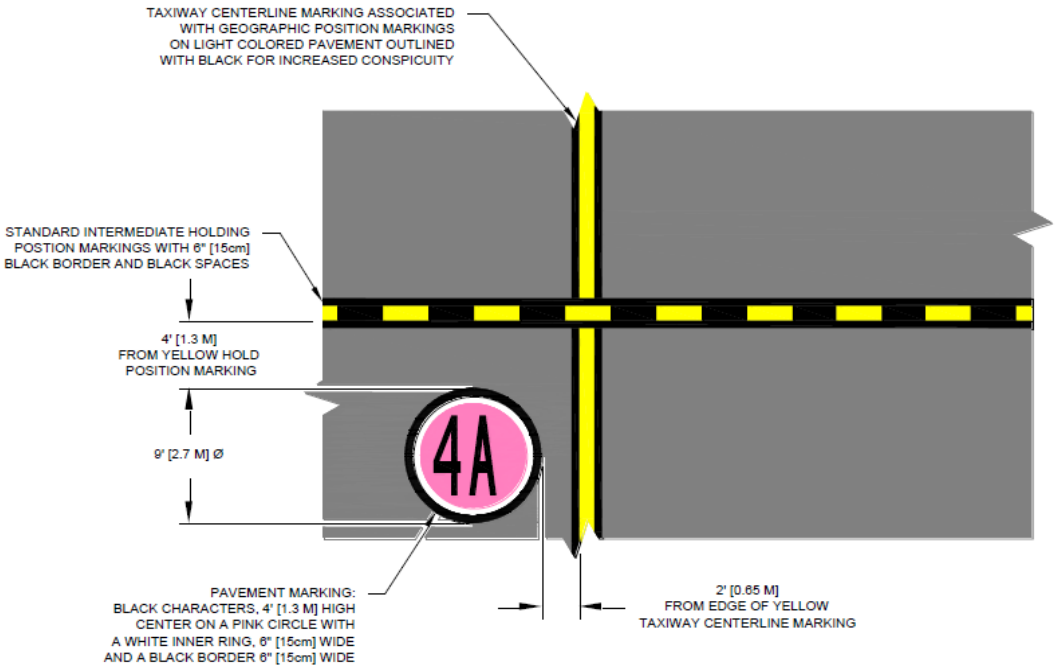
3.4.4.4 ***Instrument Landing System (ILS) Critical Area Holding Position Markings*** are comprised of **two parallel yellow lines** with lines running perpendicular between the two parallel yellow lines. These markings identify the location on a taxiway where an aircraft or vehicle is to stop when it does not have clearance to

enter ILS critical areas. The ILS critical area must remain clear, especially in inclement weather. If a vehicle proceeds past this ILS marking, it might cause a false signal to be transmitted to the landing aircraft.



ILS Hold Position Marking

3.4.4.5 ***The geographic position marking (GPM)*** is used repeatedly along a designated taxi route to serve as an indicator of a location (a spot) so that pilots can confirm holding points or report their location while taxiing during periods of low-visibility operations.



Geographic Position Markings

3.5 Runways *(Use Airport Specific Examples).*

3.5.1 Designations. Runways are areas where aircraft land and take off. Runways are always designated by a number such as 1 or 19. The number indicates the compass heading of the runway. An aircraft taking off on runway 19 is headed 190 degrees. In the event of parallel runways, a letter designation is added to indicate either the right or left runway; e.g., **1L-19R, 1R-19L.**

3.5.2 Lighting. Runways are lighted with a variety of colored lights.

3.5.2.1 ***Runway Edge Lights*** are **white. If the runway has an instrument approach,** the last 2,000 feet of the runway will be yellow in color.

3.5.2.2 ***Runway Centerline Lights*** are **white** except for the last 3,000 feet of the runway, where they begin to alternate **red** and **white.** For the last 1,000 feet of runway the centerline lights are all **red.**

3.5.2.3 ***Runway Touchdown Zone Lights*** are **white.**

3.5.2.4 ***Runway End/Threshold Lights*** are split lenses that are **red/green.**

3.5.3 Signs.

3.5.3.1 ***Mandatory Holding Position Signs for Runways*** have **white numbering/lettering with a black outline** on a **red background with a white border.** These are located at each entrance to a runway and at the edge of the runway safety area/obstacle-free zone and are co-located with runway holding position markings.

Do not proceed beyond these signs until clearance is given by the ATCT to enter onto the runway.

Holding Position Sign

3.5.3.2 ***Instrument Landing System (ILS) Holding Position Signs*** have white letters with a black outline on a red background with a white border. These signs tell pilots and vehicle operators where to stop to avoid interrupting a type of navigational signal used by landing aircraft. This is a critical area, and a vehicle/equipment operator must remain clear of it *(use airport-specific policy).* If a vehicle proceeds pass this microwave landing system/ILS marking, it may cause a false signal to be transmitted to the landing aircraft.

ILD Hold Sign

3.5.3.3 ***Holding Position Signs for Runway Approach Areas.*** The inscription on a sign for a runway approach area is the associated runway designation followed by a dash and the abbreviation APCH for approach. This sign has **white numbering with a black outline** on a **red background** with a **white border.** The sign is installed on taxiways located in approach areas where an aircraft on a taxiway would either cross through the runway safety area or penetrate the airspace required for the approach or departure runway.

Approach Sign

3.5.3.4 ***Runway Distance Remaining Signs*** provide distance remaining information to pilots during takeoff and landing operations. They have white numbering on a black background. The number on the sign provides the remaining runway length in 1,000-foot increments.

Runway Distance Remaining Sign

3.5.3.5 ***Runway Exit Sign*** is a destination sign located prior to the runway/ taxiway intersection on the side and in the direction of the runway where the aircraft is expected to exit. This sign has **black lettering** and a **directional arrow** on a **yellow background.**

Direction/Runway Exit Sign

3.5.4 Markings.

3.5.4.1 ***Pavement markings on a runway are white.*** Runway Threshold Markings and Runway Threshold Bars, Runway Aiming Point Markings, Runway Designation Markings, Runway Touchdown Zone Markings, Runway Centerline Markings, Runway Side Stripes, and Displaced Threshold Markings are white. The only non-white lines on a runway are yellow lead-in/-off lines that

extend from the runway centerline and hold lines for a specific operation known as land and hold short.

Section 4. Communications

4.1 Any vehicle driving and anyone taxiing, or towing an aircraft on the movement areas **(runways and taxiways)** must have contact with the ATCT or be capable of monitoring and transmitting on the CTAF. Vehicle operators, anyone taxiing, or towing an aircraft must always monitor the appropriate radio frequency when in the movement areas on controlled airports. Permission must be requested and clearance given prior to driving, taxiing, or towing an aircraft on a movement area. A vehicle that is equipped with a radio and a driver who is movement area qualified may escort vehicles or anyone towing an aircraft without radios; these vehicles must stay under the control of the escort at all times. When a movement area is closed for construction, vehicles may traverse that area without ATCT contact but must be escorted if their travels require them to cross an active movement area or the protected area of the RSA.

4.2 The ATCT controller may use separate or common radio frequency to control all ground traffic, vehicle, and aircraft in the movement areas. These frequencies are only to be used to get clearance onto and off the movement areas. When the ATCT is closed, the CTAF can be used to announce a driver's intentions when operating within the movement area.

4.3 **Phraseology.** Vehicle operators and anyone taxiing or towing an aircraft must contact the ATCT ground controller each and every time they proceed onto or leave the movement area. When proceeding onto a movement area, vehicle operators and anyone taxiing or towing an aircraft must tell the controller three things: **WHO you are, WHERE you are, and WHAT your intentions are.** Vehicle operators must always acknowledge all communications with ATC phraseology i.e. read back the clearance with their vehicle, tug or aircraft identification so ground control and other persons know that the message was received**. Vehicle operators must always give aircraft and ground control transmissions priority unless an emergency exists.** Very high frequency frequencies are for the primary use of aircraft and ATCT personnel. Some typical transmissions are as follows:

- Vehicle: (AIRPORT NAME) ground control; this is Airport 21 vehicle at Charlie 6. Request permission on all taxiways for a pavement inspection."
- Vehicle: (AIRPORT NAME) ground control; this is Airport 21 vehicle at Taxiway Alpha. Request clearance south on runway 19 right for a light inspection."
- Anyone taxiing or towing an aircraft: (AIRPORT NAME) ground control; this is (Airline personnel or maintenance) taxi, and Aircraft identification number, at, blast fence, gate#, apron name, request taxi (or tow) to gate#, or terminal name.

Reply transmissions may be brief, such as—

- ATCT: "Airport 21 vehicle, hold short of runway 19 right."
- Driver: "Airport 21 vehicle holding short of runway 19 right."
- ATCT: "Airport 21 vehicle cleared off south on runway 19 right."
- "Please expedite, landing aircraft on a 10 mile final for runway 19 right."
- Driver: "Airport 21 vehicle proceeding off south on runway 19 right will expedite."

- Driver: “Ground control, Airport 21 vehicle is off of runway 19 right.

ATCT Communication with anyone taxiing or towing an Aircraft.

- ATCT: "Sunrise 21, N1234, or tug XXX, taxi/tow to terminal 5, via taxiway A, C, Z. (If the clearance includes to hold short of a runway, hold short of that specific runway)
- Anyone: “Sunrise 21, N1234, or tug XXX, taxi/tow to terminal 5, via A, C, Z Terminal hold short of runway 19 right.” (If the clearance includes to hold short of a runway, repeat the runway to hold short of.)

NOTE: If you are unsure what the controller has said, or if you don’t understand an instruction, you can ask the controller to repeat it. Good communications only occur when each party knows and understands what the other is saying.

4.4 Common Use Phrases. (Reference Pilot Controller Glossary Aeronautical Information Manual)

What Is Said:	**What It Means:**
Acknowledge	Let me know you have received and understand this message.
Advise Intentions	Let me know what you plan to do and do not do it until ATCT provides authorization.
Affirmative	Yes.
Correction	An error has been made in the transmission, and the correct version follows.
Go Ahead	Proceed with your message only.
Hold/Hold Short	Phrase used during ground operations to keep a vehicle or aircraft within a specified area or at a specified point while awaiting further clearance from air traffic control.
How do you hear me?	Question relating to the quality of the transmission or to determine how well the transmission is being received.
Immediately or without delay	Phrase used by ATC when such action compliance is required to avoid an imminent situation.
Negative	"No" or "permission not granted" or "that is not correct."
Out	The radio conversation is ended, and no response is expected.
Over	My radio transmission is ended, and I expect a response

What Is Said:	What It Means:
Read Back	Repeat my message to me.
Roger	I have received all of your last transmission.
Stand By	Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in "stand by for clearance." The caller can reestablish contact if a delay is lengthy.
Unable	Indicates inability to comply with a specific instruction, request, or clearance.
Verify	Request confirmation of information.
Wilco	I have received your message, understand it, and will comply with it.

4.5 Phonetic Aviation Alphabet. Because some letters have similar sounds, like B and P, the international aviation industry uses the following words to reduce confusion. For example; Taxiway B would be referred to as Taxiway Bravo on the radio.

A	Alpha	**N**	November
B	Bravo	**O**	Oscar
C	Charlie	**P**	Papa
D	Delta	**Q**	Quebec
E	Echo	**R**	Romeo
F	Fox-Trot	**S**	Sierra
G	Golf	**T**	Tango
H	Hotel	**U**	Uniform
I	India	**V**	Victor
J	Juliet	**W**	Whiskey
K	Kilo	**X**	X-Ray
L	Lima	**Y**	Yankee
M	Mike	**Z**	Zulu

4.6 ATCT Light Gun Signals. Air traffic controllers have a backup system for communicating with aircraft or ground vehicles if their radios stop working. The controller has a light gun in the tower that can send out different colored lights to tell the pilot or driver what to do.

If a vehicle operator or anyone taxiing or towing an aircraft experiences a radio failure on a runway or taxiway, the operator can vacate the runway as quickly and safely as possible and contact the ATCT by other means, such as a cellular telephone, and advise the ATCT of the situation. If this is not practical, then the driver, or anyone taxiing or towing an aircraft after vacating the runway, can turn the vehicle, tug or aircraft toward the tower and start flashing the vehicle, tug, or aircraft (landing lights) headlights and wait for the controller to signal with the light gun.

ATC Light Signals, and their meaning, are as follows:

Light Signal Meanings

Color and type of signal	**Aircraft on the ground**	**Aircraft in flight**	**Movement of vehicles, equipment and personnel**
Steady green	Cleared for takeoff	Cleared to land	Cleared to cross; proceed; go
Flashing green	Cleared to taxi	Return for landing (to be followed by steady green at the proper time)	Not applicable
Steady red	Stop	Give way to other aircraft and continue circling	Stop
Flashing red	Taxi clear of landing area or runway in use	Airport unsafe- Do not land	Clear the taxiway/runway
Flashing white	Return to starting point on airport	Not applicable	Return to starting point on airport
Alternating red and green	General Warning Signal- Exercise Extreme Caution	General Warning Signal- Exercise Extreme Caution	General Warning Signal- Exercise Extreme Caution

4.7 Safety. The FAA defines runway incursion as any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take -off of aircraft.

4.7.1 Runway Incursions. Runway incursions are primarily caused by error in one or more of the following areas:

- Pilot/Anyone taxiing or towing an aircraft/ground and vehicle/controller communication failure
- Airport unfamiliarity
- Loss of situational awareness and not using a current airport diagram

An example of an incursion is a vehicle at an airport with an operating ATCT straying onto a runway in front of an aircraft causing the pilot to take an action to avoid a collision.

4.7.2 Right-of-Way. When driving on the airfield, vehicle operators and anyone taxiing or towing an aircraft need to always be aware of their location and the meaning of all pavement markings, lights, and signs. When on the aprons and

taxiways, stay away and steer clear of aircraft. **Aircraft always have the right-of-way.**

NOTE: Any individual involved in a runway incursion can receive remedial airfield drivers, taxiing or towing an aircraft training given by the (AIRPORT OPERATOR or their designated representative). Remedial drivers training is not in lieu of the airport operators established consequences of non-compliance with the airport operator's drivers training program, remedial drivers training is in addition to the airport operator's implementation of a progressive penalty program. Remedial drivers training is not considered acceptable consequences of noncompliance

This is an appropriate place to describe an individual airport's runway and taxiway identification system. In addition to the system description, the FAA recommends that the airport operator provide a runway (RY) and taxiway (TWY) diagram, especially if the airport's identification system varies from the norm or is otherwise complicated.

SAMPLE

GROUND VEHICLE OPERATIONS & TAXIING OR TOWING AN AIRCRAFT FAMILIARIZATION PROGRAM

TRAINING RECORD

Employee's Name: _____

Employee's Position: _____

Company Name: _____

Driver's License State and Number: _____

Driver's License Expiration Date: _____

I agree to abide by all rules and regulations prescribed for the operations of a vehicle within the airport operations area.

Vehicle Operator: As of this time, I certify that I hold a current and valid driver's license. If for any reason my license becomes invalid, I will notify the (AIRPORT OPERATOR) immediately.

Anyone Taxiing or Towing an Aircraft: I certify that I hold a current and valid FAA A&P certificate, are authorized by my maintenance facility or operator to taxi or tow their aircraft and trained by my company to start, run, and taxi or tow that particular type of aircraft. Further, the operator will ensure that during an aircraft towing operation, a trained person or pilot will attend the aircraft controls during the operation. Operations with a "Towbarless tractor", with maximum gross weight of 12,500 pounds or greater, there will be a trained person in the cockpit that can stop the aircraft if the tow bar breaks. If for any reason my company authorization becomes invalid, I will notify the (AIRPORT OPERATOR) immediately.

Sign your name and indicate today's date below:

_____ _____

(Name) (Date)

PERMITTED VEHICLE OPERATING AREAS

Location

[ ] General Aviation Apron

[ ] Air Carrier/Terminal Apron

[ ] Firehouse

[ ] Air Cargo

[ ] Tie-downs

[ ] General Aviation Hangars

[ ] All Areas

I certify that the above named individual has satisfactorily completed the Driver and Anyone Taxiing or Towing an Aircraft Training Program.

Instructor's Signature:

APPENDIX C. SAMPLE LETTER OF AGREEMENT GUIDANCE AND DETAILS

(Insert Airport Operator/ Authority) Federal Aviation Administration (FAA) (Insert Air Traffic Control Tower (ATCT) associated with Airport), (Insert Technical Operations Maintenance (Tech Ops)), and (Insert Tenants, Fix Base Operations (FBO), or Department of Defense (DoD) as required).

LETTER OF AGREEMENT (LOA)

Effective: Date Here

SUBJECT: Requirements for Operating in the Runway Safety Areas (RSAs)

1. Purpose.

1.1 This Letter of Agreement (LOA) defines the responsibilities and procedures parties entering into this agreement must consider for accessing, operating, and exiting the airport's RSA during air carrier or aircraft operations. The LOA will typically be between the Airport Operator/Authority, Air Traffic Control Tower, and Technical Operations. However, it may include others agencies such as airport tenants, Fix Base Operators or Department of Defense.

2. Cancellation. Previous letter (date) is cancelled.

3. Responsibilities.

3.1 Each line of business identified in Para 1.1 has some responsibility for ensuring the RSA is protected during air carrier or aircraft operations. In order to ensure that responsibility is covered for any given airport, a list of responsibilities by line of business is identified in the ensuing paragraph. The list of responsibilities are not all inclusive, but should be used as a framework to build specific airport requirements for accessing, operating, or exiting their RSA.

3.1.1 Airport Operator responsibilities will be to:

3.1.1.1 Identify the movement area which consists of the runways, taxiways, and other areas of the airport that aircraft use for taxiing, takeoff, and landing, exclusive of loading aprons and aircraft parking areas.

3.1.1.2 Include an Attachment 1 depicting the established movement area with the identified RSA.

3.1.1.3 Establish the premise that the RSA shall normally be clear at all times during air carrier/aircraft operations.

3.1.1.4 Develop a procedure that permits vehicles or equipment to be in the RSA for a limited amount of time. (Examples may include scheduled or unscheduled NAVAID maintenance or repair,

mowing operations, or other airport safety related circumstances where personnel and equipment will be in the RSA during air carrier/aircraft operations). When circumstances allow, drivers may drop off needed equipment within the RSA and park the vehicle outside the RSA if practicable.

3.1.1.5 Establish procedures for entry/exit from RSA based on conditions at the airport, e.g. inclement weather, night operations, construction, etc.

3.1.1.6 3.1.1.6. Collaborate with ATCT on establishing required radio frequency for RSA entry/exit.

3.1.1.7 3.1.1.7. Identify specific/general RSA entry/exit location(s).

3.1.1.8 3.1.1.8. Ensure/establish positive control procedures for entry/exit of RSA.

3.1.1.9 3.1.1.9. Establish/monitor communication procedures for the entry/exit of the RSA.

3.1.1.10 3.1.1.10. Address both vehicle/pedestrian operations in the RSA. (List not all inclusive.)

- During air carrier operations.
- Emergency responses to the RSA.
- Maintenance of NAVAIDs, signs, and lighting outside of the movement area.
- Vehicle operation (i.e. Wildlife Biologist, Tech Ops, etc.).

3.1.1.11 Establish non-towered procedures for entry/exit of the RSA, e.g. CTAF, PCL utilization.

3.1.1.12 Accomplish coordination for activities that can occur in the RSA during air carrier operations.

3.1.1.13 Provide/supplement training for operators with permission to enter/exit the RSA.

3.1.1.14 Collaborate with all airport agencies in describing any enforcement action for violating RSA entry/exit procedures.

3.1.1.15 Establish monitoring/assurance tracking matrix to gauge compliance with RSA procedures.

3.1.2 Air Traffic Control Tower responsibilities will be to:

3.1.2.1 Collaborate with the airport operator on RSA entry/exit requirements.

3.1.2.2 Perform controller training on RSA procedures based on requirements established by the airport operator.

3.1.2.3 Accept/accomplish positive control of vehicle/pedestrians while in the RSA. A clearance by ATCT to proceed into an active RSA is also required (see 7110.65, 3-1-5). Permit vehicle operator's or maintenance personnel with equipment (in direct communications with the control tower), authorization to operate up to the edge of an active runway surface when necessary (e.g. between air carrier operations during agreed upon emergency situations).

3.1.2.4 Collaborate with the airport operator on establishing required radio frequency for RSA entry/exit.

3.1.3 Technical Operation responsibilities will be to:

3.1.3.1 Collaborate with the airport operator and air traffic control tower on permission to operate in the RSA.

3.1.3.2 Adhere to any established RSA entry/exit procedures identified at the airport.

3.1.3.3 Coordinate/obtain prior permission from the airport operator to enter the RSA during air carrier operations.

3.1.3.4 Obtain/accept training on procedures for entering/exiting the RSA at the airport as established by the airport operator.

3.1.3.5 Maintain positive radio communication with controlling authority while operating in the RSA.

3.1.3.6 Collaborate with airport operator, air traffic control tower on procedures for entering the RSA.

3.1.3.7 Coordinate/establish specific routes of travel with the airport operator to access equipment located in the RSA.

3.1.3.8 Accept responsibility and enforcement actions that airport operator levies for procedural violations.

3.1.4 Tenants, Fix Base Operations (FBO), or Department of Defense (DoD) responsibilities will be to:

3.1.4.1 Accept all RSA entry/exit requirements that apply as prescribed by the airport operator.

4. Attachments.

4.1 Attachment 1 - Airport diagram denoting Movement Areas with RSA delineated.

5. Deviations.

5.1 Deviations from procedures identified herein must be approved only after coordination between the Airport Operator/Authority, Air Traffic Control Tower, Tech Ops, or any other agency that are signatory on the LOA. At Non-towered locations, the Airport Operator/Authority, Tech Ops, and any other agency that are signatory on the LOA are the approval authority.

Name
Air Traffic Manager
Airport Traffic Control Tower

Name
Technical Operation Manager
Tech Operation

Name
Director of Operations
Metropolitan Airports Commission

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to Manager, Airport Safety and Operations Division, Federal Aviation Administration ATTN: AAS-300, 800 Independence Avenue SW, Washington DC 20591 or (2) faxing it to the attention of the Office of Airport Safety and Standards at (202) 267-5383.

Subject: AC 150/5210-20A Date: 9/1/2015

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____