



AIRSIDE VEHICLE OPERATORS PERMIT

“D/A”

SERVICE ROADS & APRONS

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INTRODUCTION

The airside of an airport is a specialized working environment which is governed by rules specifically designed to prevent accidents and minimize the risks of injury to all persons within it.

This manual is a reference source to combine the applicable acts, regulations and procedures related to safe vehicle operation that experience has shown to be most important in the airside working environment. These rules are largely drawn from Airport Traffic Regulations as administered by Transport Canada and available online at www.tc.gc.ca/eng/acts-regulations/regulations.htm

Persons using this manual are reminded that it has no legislative sanction. For purposes of interpreting and applying the law, the Acts and Regulations should be consulted.

1.0 DRIVING ON AIRSIDE - GENERAL

The operator of a vehicle operating on the airside of Saskatoon John G. Diefenbaker International Airport is ultimately responsible for the safe operation and parking of the vehicle at all times. If the operator has any doubt about whether they are operating in a safe fashion, their employer or Airport Operations must be contacted for guidance.

Any person operating a vehicle on the airside of the airport must possess a valid Airside Vehicle Operators Permit (AVOP) issued by the SAA. No other airport's AVOP is valid at Saskatoon. The prerequisites for an AVOP are:

- A valid driver's license to operate a vehicle
- Restricted Area Identification Card (RAIC) (if access to Apron 1 and/or 8 is required)

1.1 Administration of the AVOP Program

The President/CEO of the Saskatoon Airport Authority, or his designate, have the authority for the issuing, suspension or cancellation of permission to operate a vehicle on the airside of an airport.

1.2 Applications for an AVOP

An application form may be obtained from the applicant's employer, or is available online under the Pass Office & AVOP Permits Information page on www.skyxe.ca.

An employer must provide justification on the application form, as well as a signature from both the employer and the applicant is required. It is the employers' responsibility to ensure that an applicant is properly trained for driving on airside, and maintain records of this training.

(if the appointment is booked on online with SuperSaaS then the authorization is not required)

An AVOP is considered to be revoked when your employment terminates at Saskatoon John G. Diefenbaker International Airport.

If you change employers or work for more than one employer, each employer must complete an AVOP authorization form for you. For persons with multiple employers, only one AVOP will be issued, but any other authorization will be kept on file to provide justification for your need to operate a vehicle on airside.

1.3 Testing to Obtain an AVOP

Before an AVOP can be issued both written and practical exams must be passed. If there is more than 4 months between when you take the written exam and when you do the road test the written test must be taken again. These examinations can be scheduled by contacting your company signing authority to make an appointment; a completed authorization form must be submitted at the time of testing. You may get up to 2 questions incorrect on the exam and still pass, however this is at the discretion of the examiner based on your ability to verbally correct the questions. A re-write of the exam may be booked no sooner than 7 days after a test failure.

When the written test is complete the applicant may book an appointment for a practical driving test. During the driving test the applicant will be expected to demonstrate competence in the area they are applying to operate a vehicle in. A re-test as a result of a failure of the driving test may be booked no sooner than 14 days after the test failure.

1.4 Refresher Testing

Refresher testing consists of a written test with an 100% pass mark that is required every 5 years to maintain possession of an AVOP, and must be performed before a renewal of the AVOP will be issued. AVOP holders are responsible for ensuring their permit is valid and refresher testing has been completed.

Any vehicle operator who has not been driving on airside for 1 year is required to notify the SAA and complete refresher testing.

1.5 Suspension of an AVOP

The President/CEO, or his designate, reserves the right to suspend or revoke an AVOP at his or her discretion. If you operate your vehicle in an unsafe manner and present a danger to aircraft, people or other vehicles, your AVOP will be revoked immediately. Some examples are as follows, but not limited to:

- Taxiway and/or Runway incursion
- Reckless driving
- Intentional damage to safety or marking devices
- Impaired driving
- Failure to comply with the Airport Traffic Regulations

In the event an AVOP is suspended the holder of the AVOP will be required to write a corrective action exam. The AVOP will be re issued at the discretion of the President/CEO of the Saskatoon Airport Authority, or his designate.

All vehicle operators are required to possess a valid driver license to operate a vehicle for the entire duration of the validity of their AVOP. Should a vehicle operator license be revoked during this period, it is that driver's responsibility to notify their employer and turn-in their AVOP to their manager, until such time as their driver license has been reinstated.

2.0 RESPONSIBILITIES AND DUTIES

A vehicle operator must determine that his vehicle is operating satisfactorily and has the required safety equipment and markings (See Section 6). All operators shall notify their immediate supervisor of any equipment malfunction.

If you encounter any obstruction or potentially hazardous condition on any aircraft movement surface, report its nature and location to your supervisor or SOC in order that immediate action may be taken.

All personnel with a Restricted Area Identity Card (RAIC) or Temporary Employee Pass shall wear the card prominently displayed on their outer clothing at all times, ensuring they are always visible when in the restricted areas.

A person who is not in possession of valid identification shall not enter or remain in any area of an airport that is designated by a sign as a restricted area unless authorized to do so by the President/CEO.

Persons not displaying valid identification will be considered unauthorized and should be reported immediately to SOC. All designated gates must be kept closed and locked to prevent unauthorized personnel or vehicles access to the airside.

3.0 PEOPLE AND VEHICLES IN RESTRICTED AREAS

Safety is the first priority of all vehicle operators at the Saskatoon John G. Diefenbaker International Airport. To properly maintain this safe operating environment there are many detailed rules for drivers to follow, but the following can summarize these rules:

- Obey all signs and markings – drive only where you are authorized to drive
- D/A AVOP holders must never drive into a controlled area (ie. runways and taxiways). To do so you must have a D AVOP and specific permission from the Control Tower
- Always obey speed limits
- Drive defensively and in a safe manner
- All people in a vehicle must be seated in their own seats
- Always yield to aircraft, pedestrians, emergency vehicles with warning devices operating and snow removal equipment

3.1 Licensing

All vehicles operated on the airside of the airport must display a valid provincial registration plate, or a registration plate or other means of identification issued or authorized by the President/CEO of the Saskatoon Airport Authority.

3.2 Smoking or Open Flame

Smoking of any kind, including the use of e-cigarettes and vaporizers, is expressly forbidden on the airside of the airport. This includes drivers and passengers in vehicles.

3.3 Cellular Phones and Other Electronic Devices

The use of cellular telephones (for both talking and texting), as well as other electronic media devices (IPOD's, PDA's, DVD Players etc.) is prohibited while operating a vehicle on the airside of the airport.

3.4 Security Barrier

No person shall park a vehicle or place any other object within 3 meters of a security fence on groundside or within 1 meter on airside. The security fence is marked with signs that have "Restricted Area" on them. Any person who opens a gate on a security fence or a door on a building that leads to airside/restricted areas is responsible for any person or vehicle passing through the gate, and to ensure all gates are closed behind them. No person without a RAIC or an escorted visitor pass shall be allowed on the airside/restricted area.

3.5 Reporting

Any condition that presents a safety hazard or security risk to people, vehicles, aircraft or other airport operations shall be reported immediately to Airport Security. If you observe a gate or door to the airside of the airport open and unattended, you must secure the door or gate and report it to Airport Security by calling SOC at (306) 975-4328.

3.6 Skyxe Safety Management Systems

A safety management system is a proactive approach to airside safety that is woven into the culture of how we perform the duties of our jobs everyday here at Skyxe. All employees at Skyxe play an integral part of the management of safety by operating as the eyes and ears of the airport in all areas that your job takes you to. Please report any urgent conditions immediately to SOC so the airport authority can take action. For non urgent safety issues please report to safety@skyxe.ca.

3.7 Accidents

All accidents involving aircraft on the ground, vehicles or pedestrians must be reported immediately to Airport Security by each driver, pedestrian and/or company involved. Operators and vehicles will remain clear of the scene of an accident unless authorized by the President/CEO.

3.8 Foreign Object Debris

Any foreign object debris (FOD) on airside can seriously damage aircraft engines. All vehicle operators shall ensure their vehicles do not deposit any FOD on the airside (including mud or gravel). If you observe FOD on airside, you must do your best to remove it. If you cannot remove it, advise Airport Security directly or through your supervisor.

3.9 Spill or Leak of Hazardous Substance

All spills or leaks must be reported immediately to the SOC. The operator of the vehicle or company representative that caused the spill or leak shall remain with the equipment until the SAA is assured the product is cleaned up and the area is safe.

3.10 Distinguished Visitors

Operators and vehicles will remain clear of aircraft carrying distinguished visitors unless authorized by the President/CEO.

3.11 Reflective Clothing

For the safety of all vehicle operators a PPE reflective vest and/or other reflective clothing must be worn at all times when outside a vehicle on the apron or maneuvering area.

3.12 Vehicle Passenger Limits

The number of individuals in a vehicle shall never exceed the number of available seating positions. A vehicle shall never be operated with riders in any position other than an approved seating position within the body of the vehicle; at no time shall an individual ride in or on a trailer.

3.13 Seatbelts

For the safety of the driver and all occupants of any vehicle (and equipment so equipped), all vehicle occupants must be properly secured with a seatbelt prior to its operation. At no time should any safety device be bypassed or defeated.

3.14 Garbage

The Saskatoon Airport Authority requires that all garbage, broken equipment, and items no longer required be removed immediately from the maneuvering/movement areas of the airport.

3.15 NPS – Vehicle Screening

All vehicles must proceed through the NPS-V facility before proceeding onto Apron 1 and/or Apron 8. By entering the facility you have given consent to have your vehicle and person screened. When selected by a screening officer, you must be screened in order to enter or remain in the restricted area, if you refuse screening, your RAIC will not be returned to you and you therefore cannot enter or remain in the restricted area.

3.16 Anti-Idling

In the interest of saving fuel, reducing exposure to harmful air pollutants, and reducing greenhouse gas emissions, when the weather permits please turn off vehicle engines that are not in use for more than 60 seconds. According to research done by Natural Resources Canada, idling for over 10 seconds uses more fuel and produces more carbon dioxide compared to restarting your engine.

4.0 Airport Traffic Directives For The Operation Of Vehicles On Airport Movement Areas

4.1 Right of Way

Aircraft always have the right-of-way. Before entering an airport movement area, the vehicle operator shall always visually check and ensure that aircraft are not approaching or departing.

All vehicle operators shall give right of way to the following, in order of priority:

- Aircraft (including vehicles towing aircraft or aircraft in tow)
- Pedestrians
- Emergency vehicles with warning devices operating
- Snow removal or maintenance equipment in the performance of their duties

4.2 Speed Limits

Unless otherwise posted, the speed limit on roads, aprons and service areas is 25 km/h. Emergency vehicles may exceed speed limits if warning flashers are operating. Speed limits may be enforced by CCTV.

4.3 Towing

No vehicle operator shall tow more carts than can be done safely and accurately (thereby not coming into contact with corners, overhead doors, baggage systems and other equipment) while operating at 25 km/hour. Operators are responsible for ensuring that their loads are fastened or covered to prevent the

load from coming loose or falling on the surface. Please consult your employer for further company specific safety requirements regarding towing.

4.4 Operational Stands

Areas within operational stands are provided for the free movement of vehicles and persons performing their duties related to servicing an aircraft.

4.5 Proximity to Aircraft

Jet blast and propwash are potentially hazardous to other aircraft, vehicles, equipment and people, therefore extreme caution should always be exercised while operating around aircraft. Vehicle operators and pedestrians shall remain a safe distance from areas affected by the jet blast or propwash of maneuvering aircraft, and not pass in front or closely behind aircraft with engines running, until the aircraft wheels have been chalked and/or the Marshaller or Wing Walker waves permission.

4.6 Aircraft Marshaller



The movement of aircraft arriving or departing an aircraft stand will be under the control of a Marshaller. Positioned at the tip of the aircraft lead in line, and assisted by wing walkers located near where the aircraft wing tips will be when parked, the Marshaller is responsible for directing the aircraft into and out of the proper parking position. Never drive between an aircraft and the Marshaller, or cause an aircraft that is in motion (via power or tow) to deviate from their planned course or to adjust their speed to avoid your vehicle. In the event that a vehicle proceeds too close to an aircraft that is arriving or departing, the wing walker may signal the driver to stop immediately with an 'x'. (see figure)

4.7 Parking

Vehicles may **not** be parked in:

- areas where parking is prohibited
- a loading area
- an area not intended for the use of vehicles

Wherever possible and practical, vehicles and equipment should be **backed** into parking areas. This is particularly important around air terminal buildings, loading bridge areas, and other heavy traffic areas.

No person shall park an aircraft fuel servicing vehicle within 15 metres (50 feet) of any airport terminal building, aircraft cargo building, aircraft hangar or any other airport structure designed to house the public which has windows or doors in any exposed walls.

5.0 Airside Pavement Markings, Lights and Signs

Both vehicle and aircraft movement on the ground is guided by pavement markings, lights and signs on the airside that are different from those used on roads and highways. This section describes and illustrates the markings, lights and signs most commonly used at airports and which an airside vehicle operator is required to know.

5.1 Pavement Markings

Vehicle operators must understand the pavement marking system:

- White lines pertain to **vehicle** movement and control, as well as passenger movement.
 - i.e. Vehicle Corridors, Security Lines and Passenger Corridors
- Yellow lines pertain to **aircraft** movement and control.
 - i.e. Aircraft Movement Guidelines and Lead-In Lines
- Red lines pertain to the movement of both aircraft and vehicles around bridges.
 - i.e. Bridge Movement Areas and Apron Safety Lines

5.1.1 Vehicle Corridors (Figure A)

Two solid white lines 7.5 meters (25 feet) apart, centered by a single broken line. All vehicles (with the exception of vehicles noted below) must operate within these corridors when moving about the apron (e.g., to or from operational stands, between operational stands, across aircraft taxi lanes, etc.) Only the following vehicles may operate outside the corridors:

- Vehicles such as maintenance, construction and snow removal vehicles, that require access to other areas of the apron when performing their duties; and
- Emergency vehicles, with warning devices operating, when responding to an emergency.

Vehicle Corridors are not guaranteed safe routes and drivers must always use caution to avoid parked and moving aircraft. Passing another vehicle while driving in a vehicle corridor is NOT permitted. When entering and exiting a vehicle corridor do so at a right angle (90 degrees) to ensure maximum visibility, while signaling your intent with the vehicle's turn signal (in vehicles so equipped).

Figure A



Figure B



5.1.2 Passenger Corridor (Figure B)

A corridor delineated by solid white diagonal lines at ground load locations, through which passengers can safely board and deplane the aircraft. Vehicles are prohibited from crossing a passenger corridor at any time when it is in use.

5.1.3 Bridge Movement Area (Figure C)

The area surrounding a bridge defined by red diagonal lines. This area provides a safe zone to maneuver and park a bridge free of equipment, vehicles and other obstacles. Vehicles may not pass through a Bridge Movement Area or drive beneath a bridge.

Figure C



Figure D



5.1.4 Apron Safety Lines (Figure D)

Double sided red and white lines used to denote the areas on an apron that ground service vehicles and equipment must be parked, and aircraft can safely maneuver around a bridge.

Red Line – Cannot be crossed by aircraft. This line defines the area where aircraft can safely maneuver, unobstructed by vehicles or equipment, while operating around a bridge.

White Line – Defines the area that ground service vehicles and equipment must be parked behind when not directly involved in servicing of the aircraft.

5.1.5 Apron Taxiway (Figure E)

A taxiway located on an apron, delineated by a single yellow line (often outlined in black to increase visibility) that is intended to provide a through taxi route for aircraft across the apron, or access to a gate or aircraft parking position. The nose wheel of the aircraft is centered on this line to ensure that the wings will not contact any obstructions.

5.1.6 Taxiway Centre Lines (Figure H)

A single yellow line (often outlined in black to increase its visibility) located on a taxiway that provides center line guidance while taxiing, to ensure the aircraft remains on pavement and does not come into contact with any obstructions.

Figure E



Figure I



Figure F



Figure H



Figure G

5.1.7 Hold Lines (Figure G)

Located at the intersection between a taxiway and a runway, a hold line consists of two solid and two broken yellow lines, across the width of the taxiway, with the broken lines located closest to the runway. Vehicles and aircraft must stop behind the solid line and not proceed unless and until permitted to do so by the Air Traffic Controller or Flight Service Specialist. Where 2 taxiways intersect, a hold line consists of a single broken line (Figure F).

5.1.8 Aircraft Lead-in Lines (Figure I)

A solid yellow line (often outlined in black to increase its visibility) connecting a triangular Gate Identification Marking and a gate or parking position. The aircraft nose wheel is centered on this line to guide the aircraft into the parking position and to ensure it will not contact any known obstructions.

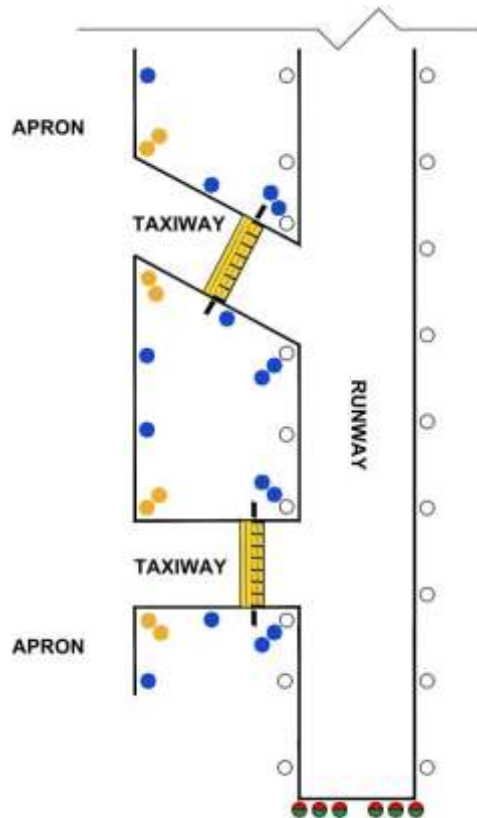
5.2 Lights

5.2.1 Aerodrome Beacon

The aerodrome beacon is a large rotating white light mounted on top of the control tower. It is provided for visual identification of the airport by aircraft but is also a good reference point for vehicles on the airfield.

5.2.2 Edge Lighting for Aircraft Movement Surfaces

Different coloured lights are used to indicate the edge of various aircraft movement surfaces.



Blue lights are used along the edge of aprons and taxiways.



White lights are used along the edge of runways.

Amber lights are used at the intersection of aprons and taxiways.

Two sided lights, half **red** and half **green**, are used at the end of runways with the red half facing the runway and the green half pointing towards the approach to the runway.



Hold lines, located at the intersection between a taxiway and a runway, are illuminated on either side by Runway Guard Lights, also known as Wig Wags because of the repeated flashing pattern that they display.

Every vehicle operator must know the meaning of the various types of lights used at an airport to avoid entering areas where they are not permitted to be, and as a guide to vehicle movement when within the maneuvering areas (runways and taxiways) of the airport.

5.3 Signs

5.3.1 Airside Service Road

Vehicle signs used on aprons and airside service roads are generally the same signs as those used on provincial roads throughout Canada. All vehicle operators on airside service roads are required to comply with these signs which are enforceable under the Airport Traffic Regulations.

5.3.2 Maneuvering Area Signs

Signs used on the maneuvering area (runways and taxiways) are designed and intended for the use and guidance of aircraft. They are also of value to vehicle operators with a D/A Permit as they are often visible from the apron and can be used to identify areas they should not enter.

These signs are normally mounted on either the left, right or both sides of a runway or taxiway according to requirements and are located 15 m to 20 m (50' to 65') from the edge of the maneuvering surface.

Hold Signs – This mandatory instruction sign has white letters, numbers, or symbols against a red background. Often located at intersections, they indicate mandatory holding positions where a pilot or vehicle operator must obtain permission from the Air Traffic Control Tower or Flight Service Station to proceed.

Designator Signs – These location signs are yellow and black and are used to indicate a position, direction, or destination, identifying taxiways by letter and runways by number. Yellow lettering on a black background indicates the taxiway on which the vehicle is *currently* proceeding. Black lettering on a yellow background indicates the direction of an *upcoming* taxiway or runway.

Directional Signs – These informational signs are yellow with black lettering and often have an arrow indicating the direction of travel to exits, aprons, terminal buildings, or other facilities named on the sign.

Maneuvering Area Signs are often used in combination with one another to provide detailed information. See below for examples from the airfield at YXE:



This sign combines a hold sign with a designator sign. The black designator sign tells the pilot or vehicle operator that they are currently travelling on taxiway Bravo. The red hold sign tells them that they will soon intersect with runway 33 and must hold short and obtain permission from the tower before proceeding.



This sign is a combined designator and directional sign. The yellow background tells the pilot or vehicle operator about upcoming taxiways, and the arrows indicate their direction.



This designator and directional sign tells the pilot or vehicle operator that they are currently travelling on taxiway Alpha, and will soon intersect with upcoming taxiway Bravo. The angled arrows indicate the approximate angle at which the 2 taxiways will intersect.

6.0 Safety Markings and Equipment Requirements for Apron Areas

All vehicles and equipment operating on aprons shall be equipped with standard safety markings prescribed for apron service vehicles.

Exceptions:

Occasional use on the apron area of vehicle or equipment not equipped with standard safety markings may be permitted while under escort of a vehicle so equipped. Aircraft fueling vehicles which have an overall height in excess of 3.5 m are permitted to mount 360° beacon lights on the vehicle cab provided that tail signal lights are operated in conjunction with the 360° beacon light to provide adequate indication to the rear of the vehicle.

Police, emergency services and other vehicles equipped with safety markings prescribed for operation on airport maneuvering areas are considered to equal or exceed these standards.

6.1 Vehicle Lights

All vehicles must be equipped with head lights, tail lights, parking lights, and if licensed for off airport use, a license plate light. Vehicles with a cab must also be equipped with a rotating or flashing beacon light mounted on top of the vehicle. Vehicles without a cab must be capable of operating the parking and tail lights so that they flash on and off in unison.

Whenever a vehicle is moving on the airport apron, those lights equipped with a flasher (beacon light only for vehicles with a cab) must be used. The purpose of this procedure is to indicate to taxiing aircraft that the vehicle is being operated in the active apron area. These lights should not be left flashing when the vehicle is stationary within the perimeter of a parked aircraft for the purpose of providing service to that aircraft. Improper use of flashing lights is potentially distracting to taxiing aircraft and down-grades their value as a warning indicator that the vehicle is in motion.

Headlights and non-flashing tail and parking lights must be operated during hours of darkness and reduced visibility and may be left on as required while engaged in service to parked aircraft. All vehicle lights should be turned off when the vehicle is parked in approved parking locations.

6.2 Reflective Markings for Non-Motorized Equipment

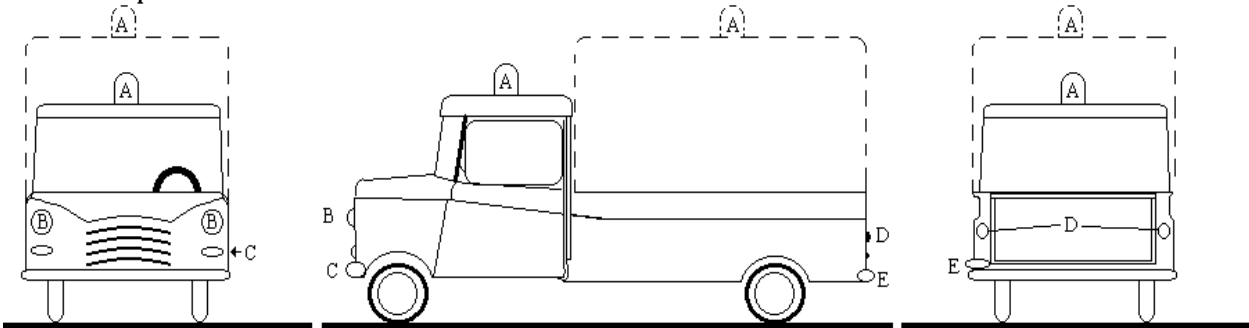
All non motorized equipment is required to carry a strip of yellow reflective material along the full length of the equipment and diagonal yellow and black panels on the front and rear lower corners.

(See Section 7)

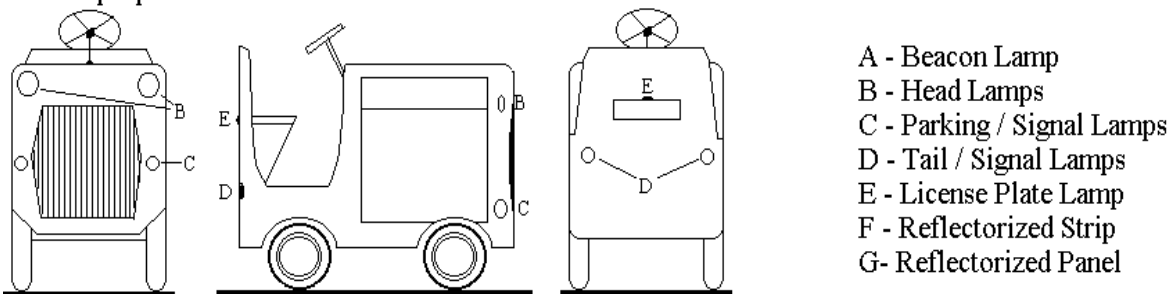
The presence of unlit equipment on airport aprons can be a significant hazard to taxiing aircraft. For this reason, it is important that the reflective material on all equipment should be kept clear and in good condition at all times.

7.0 Safety Marking Requirements for Apron Service Vehicles

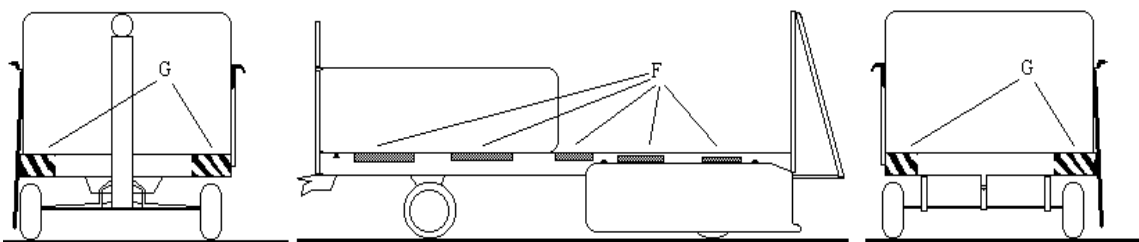
I. Self-Propelled Vehicles with Cab



II. Self-propelled Vehicles without Cab



III. Non-self-propelled Vehicles and Equipment



8.0 DEFINITIONS

Aerodrome - any area of land, water (including the frozen surface thereof), or other supporting surface used, designed, prepared, equipped or set apart for use either in whole or in part for the arrival, departure, movement or servicing of aircraft and includes any buildings, installations and equipment situated thereon or associated therewith.

Aircraft - any machine capable of deriving support in the atmosphere from the reactions of the air.

Airport - an aerodrome in respect of which a Canadian aviation document issued pursuant to the Aeronautics Act is in force

Airport Traffic - all traffic on the maneuverable area of an airport and all aircraft flying in the vicinity of the airport.

Airside - that area of an airport intended to be used for activities related to aircraft operations and to which public access is normally restricted; all areas inside the airport perimeter fence or air terminal building security barrier which is marked with "Restricted Area" signs, as defined in the aerodrome security regulations.

Apron - that part of an airport, other than the maneuvering area, intended to accommodate the loading and unloading of passengers and cargo, the refueling, servicing, maintenance and parking of aircraft and the movement of aircraft, vehicles and pedestrians to allow execution of those functions

Apron Traffic - all aircraft, vehicles, pedestrians and equipment utilizing the apron area of the airport

AVOP - Airside Vehicle Operator's Permit – a document issued by the SAA certifying that the person named therein is authorized to operate vehicles in the airside area.

Blind Transmissions - a transmission from one station to another when two-way communication cannot be established and it is believed that the called station can hear transmissions but is unable to transmit.

Controlled Airport - an airport at which an air traffic control unit is provided.

Controlled Area - an area of the airport that requires permission from the Control Tower or Flight Service Station before entering. i.e. Runways and most Taxiways

Cross-Walk - any portion of a road, apron or other area designated by a sign or surface marking as a pedestrian crossing

D/A AVOP - an AVOP which only permits a driver to operate a vehicle in uncontrolled airside areas in the performance of their duties.

D/T AVOP - an AVOP which permits a driver to operate a vehicle in uncontrolled airside areas as well as controlled Taxiways (Taxiway Alpha and Bravo at YXE)

D AVOP - an AVOP that allows a driver to operate a vehicle anywhere on the airport in the performance of their duties.

Designated Vehicle Corridor - a road delineated by surface markings on an apron.

Equipment - any motor vehicle or mobile device, either self-propelled or towed, or of a specialized nature, used for runway and airfield maintenance or in the maintenance, repair and/or servicing of aircraft, including test equipment, cargo and passenger handling equipment.

Flight Service Specialist - a NavCanada employee who provides advisory information to aircraft and vehicles using, or about to use, the maneuvering areas of an airport where control service is not available.

Flight Service Station - a NavCanada operated facility from which aeronautical information and related aviation support services are provided to aircraft including airport and vehicle advisory services when the control tower is closed at CYXE(Saskatoon radio).

Foreign Object Debris (FOD) - an item that could potentially cause damage to jet engines or injure personnel.

Glide Path - that part of an instrument landing system that helps the pilot approach the runway on the correct descent angle to the designated touchdown zone.

Ground Control - the operating position in the control tower that provides

- a) Clearances and instructions for the movement of airport traffic, and
- b) Information to all traffic within the airport perimeter as it is known and pertinent

Groundside - that area of an airport not intended to be used for activities related to aircraft operations and to which the public normally has unrestricted access; the portion of an airport that is publicly accessible.

Holding Bay - a defined area where aircraft can be held, or bypassed, to facilitate efficient surface movement of aircraft.

Hold Short - instructions to stop and hold at the designated position prior to the edge of a runway or taxiway while awaiting permission to cross or proceed onto a runway.

IROP - irregular operation.

Jet Blast - the force, or wind generated behind a jet engine, particularly on or before take-off, during taxiing, and while the aircraft is positioning itself at a gate. Extreme caution must be used at all times to avoid the potential hazard Jet Blast creates.

Light Signal From Airport Control Tower - a light used by the tower to control airport traffic when there is no radio communication.

Localizer - that part of the instrument landing system that helps the pilot remain lined up with the runway during his approach.

Maneuvering Area - that part of an airport ordinarily used for the take-off and landing of aircraft and for the movement of aircraft associated with the take-off and landing, but does not include the apron

Marshaller - the person directing the movement of aircraft on the ground.

Movement Area - that part of an aerodrome intended to be used for the surface movement of aircraft and includes the maneuvering areas and aprons.

NOTAM - a notice containing information concerning the establishment, conditions or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

NPS - Non Passenger Screening. All pass holders must submit to random screening of their person or vehicles, when required, at an access point at the airport. For RAIC holders this screening is random; for temporary pass holders it is mandatory.

Operational Stand - an area on an airport apron designated for the parking of aircraft for the purpose of loading and unloading passengers, and the provision of ground services.

Operator - the person responsible for the operation and safety of the vehicle and equipment, usually referred to as the driver.

Prop Wash - the force, or wind generated behind a propeller, particularly on or before take-off, during taxiing, and while the aircraft is positioning itself at a gate. Extreme caution must be used at all times to avoid the potential hazard Prop Wash creates.

President/CEO - the person in charge of an airport or the authorized representative of that person

Push Back - a procedure where an aircraft is moved backward with a tug.

Restricted Area - an area at an aerodrome that is designated by a sign as an area to which access is restricted to persons authorized by the president/CEO of the airport.

RAIC - Restricted Area Identity Card. Issued by the Saskatoon Airport Authority (SAA) and required for unescorted entry to the airside of the airport and into Restricted Areas. The SAA also accepts the National Restricted Area Identification Card, also called a Canada Pass, as issued by the Canadian Air Transport Security Authority (CATSA).

Restricted Radio Telephone Operator's Certificate - a document issued by the Department of Innovation, Science and Economic Development certifying that the holder may act as an operator on any aeronautical land radio station fitted with radiotelephone equipment only, transmitting on fixed frequencies and not open to public correspondence.

Runway Incursion - a runway incursion is defined as entering the space bounded by 45 meters on either side of the runway, without the permission of the tower (ground).

Taxiway - the part of an aerodrome used for maneuvering aircraft and airport equipment between the apron area and runway.

Threshold - the beginning of that portion of the runway usable for landing.

Uncontrolled Airport - an airport that is "non-controlled" to the extent that the airport does not have an operating air traffic control tower.

Uncontrolled Area - an area on the airside, typically an apron, which does not require permission from the air traffic control tower to enter.

Vehicle - any type of automobile, bicycle, skateboard, over snow vehicle or any other type of self-propelled vehicle, which is classified as a vehicle under the Saskatchewan Highway Traffic Act; does not include aircraft.

Vehicle Advisory Service - information provided by the flight service station for the safe movement of known vehicles and aircraft on maneuvering areas at locations where no control tower is in operation.

Vehicle Corridors - parallel 150 mm (6 inches) wide solid white lines, centered by a single broken white line, spaced 7.5 meters apart to provide guidance to vehicle and equipment operators.

Visitor Pass - a type of SAA issued pass that allows a person to enter the airside of the airport if they have a clear need, but must be escorted at all times by an airport pass holder.

Warning Device - a siren and/or flashing red light.

9.0 ACTS AND REGULATIONS

The following acts and regulations were used to support the information in this manual:

- Aeronautics Act
- Air Regulations
- Airport Traffic Regulations
- General Radio Regulations

Related manuals on which this directive is based include:

- ATC – MANOPS
- FSS – MANOPS
- Fleet Management Manual: Motor Vehicle and Mobile Equipment
- Safety Marking Requirements for Apron Service Vehicles
- National Identification System for Radiotelephone Communications from Vehicles Operated on Airport Maneuvering Areas

Appendix A & B

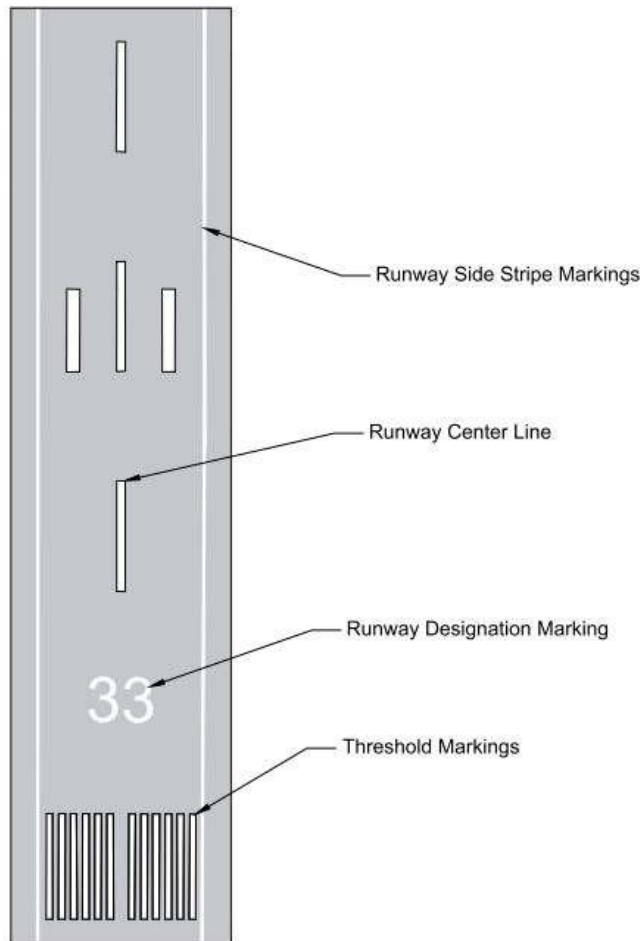
Increased knowledge of the airport environment provides greater understanding of your surroundings, while increasing the ability for employees to operate in a safe manner at YXE. For this purpose the following appendices have been included for your consideration. While you are strongly encouraged to review them, they will not be included on any D/A AVOP testing.

Appendix A – AVOP Map



1. Runway 09-27	6. Taxiway Foxtrot	11. Apron VII
2. Runway 15-33	7. Gate 40 / NPS-V	12. Apron VIII
3. Taxiway Alfa	8. Gate 37 / NPS-V II	13. Apron I Deice
4. Taxiway Bravo	9. Gate 45 / Firehall	14. Apron IV Deice
5. Taxiway Charlie	10. Apron I	

Appendix B- Runway Markings



Runway Designation Markings

Each end of a runway is numbered in tens of degrees corresponding to the direction of the runway in relation to a magnetic compass. The compass of an aircraft will read 270° when approaching the end of a runway marked with the number 27. The numbers are painted white and face towards the end of the runway. Vehicle operators should know the various runway headings (numbers) and their location on the airport.

Runway Center Line

The center of a runway may be marked with a broken white line made up of several lines close together, each group is 100' in length with 100' between.

Threshold Markings

The beginning of the usable part of a runway for aircraft landing may be marked with a series of solid white lines parallel to the length of the runway. The lines are in groups. The number of lines in the group, and the number of groups of lines varies according to the width of the runway.

AVOP SELF-TEST

Your written AVOP test will be based on a number of multiple choice questions similar to those contained in the following pages

The questions are categorized in the same order as the information in this manual for easy cross reference.

The correct answer for each question is provided following the test to check your own score and identify those parts of the manual which may need further study.

1.0 DRIVING ON AIRSIDE - GENERAL

- 1) Who has authority for the issuing, suspension or cancellation of permission to operate a vehicle on the airside of an airport?
 1. The Minister of Transport
 2. The President/CEO
 3. The Officer in Charge of Security
 4. A Police Constable

- 2) Who is responsible for ensuring that all designated gates to the airside of the airport are closed and locked?
 1. Every person who has authority to use a gate giving airside access
 2. Airport security staff
 3. Airport Management staff
 4. Airline employees only

- 3) There are many types of vehicles and equipment used on the airside of an airport. Who is responsible for ensuring that a vehicle operator knows how to operate the equipment he or she uses?
 1. The licensing authority
 2. The vehicle operator
 3. The vehicle operator's employer
 4. The security office

- 4) Who is responsible for ensuring an AVOP permit is valid and refresher testing has been completed:
 1. The President/CEO
 2. The AVOP Holder
 3. The Pass Office
 4. Your Employer

2.0 RESPONSIBILITIES AND DUTIES

- 5) The person responsible for determining that his or her vehicle is operating satisfactorily and has the required safety equipment and markings is:
 1. The owner of the vehicle
 2. The operator of the vehicle
 3. The police
 4. The Airport Manager

- 6) If you encounter an obstruction or a potentially hazardous condition on an aircraft movement surface you should report it to:
 1. An airport mechanic or marshaller
 2. A Duty Manager or your supervisor
 3. All aircraft operators
 4. The control tower

- 7) Who is responsible for reporting any vehicle malfunction or dangerous condition to the supervisor?
 1. Any other driver
 2. The base supervisor
 3. The mechanic
 4. The vehicle operator

- 8) How is a RAIC carried?
 1. Prominently displayed on the outside of your clothing
 2. In your wallet
 3. In the glove compartment of the vehicle you are operating
 4. Not required to be carried

3.0 PEOPLE AND VEHICLES IN RESTRICTED AREAS

- g) Smoking on the airside area of the airport is:
 1. Permitted
 2. Permitted in vehicles only
 3. Prohibited both inside and outside vehicles
 4. Permitted if no aircraft are within 100m of the smoker

- 10) Whenever an aircraft carrying distinguished visitors is at an airport, unauthorized personnel and vehicles are required to:
 1. Remain clear of the aircraft unless otherwise authorized by the Airport Manager
 2. Drive slowly past the area but do not take pictures
 3. Conduct normal vehicle movements but do not stare
 4. There is no restriction on vehicle movement

- 11) Seatbelts are:
 1. Required to be worn by all passengers of vehicles and equipment in which they are provided
 2. Not allowed to be bypassed in any way, including by buckling them behind your body
 3. Only required in vehicles. They are not necessary on tug's and other equipment
 4. Both 1 & 2

- 12) Which of the following statements most accurately describes NPS-V operations:
 1. When refusing screening at the NPS-V facility, ensure that you get your RAIC back before proceeding onto Apron 1
 2. All vehicles must pass through the NPS-V facility before proceeding onto Apron 1
 3. Only vehicles remaining on Apron 1 are required to pass through the NPS-V facility
 4. Screening officer must collect written consent from airport employees prior to performing NPS-V screening operations

- 13) Foreign Object Debris (mud – gravel – solid objects) can seriously damage aircraft engines. If a vehicle operator notices FOD on an aircraft movement surface, the vehicle operator is required to:
 1. Report the nature and location of the material to the police
 2. Report the nature and location of the material to other drivers
 3. Attempt to remove it or report the nature and location of the material to your supervisor
 4. No special requirements exist for vehicle operators

4.0 AIRPORT TRAFFIC DIRECTIVES

- 14) Which of the following traffic has first priority, (right of way) over all other traffic?
1. Maintenance vehicles in the performance of their duties
 2. Emergency vehicles
 3. Aircraft
 4. The vehicle approaching from the right
- 15) Unless otherwise posted, the speed limit on roads, aprons and service areas is:
1. 50 km/hr
 2. 25 km/hr
 3. 30km/hr
 4. 100 km/hr
- 16) Areas within Operational Stands:
1. Are provided for the servicing and maintenance of vehicles
 2. Provided for free movement of vehicles performing their duties related to aircraft
 3. Are defined as areas where vehicle flashing lamps or beacon lamps must always be turned on
 4. Are provided for the refueling of aircraft only
- 17) It is permissible to operate a vehicle in front of or directly behind an aircraft with engines running when:
1. Not at any time
 2. The red, anti-collision beacon of the aircraft is turned off
 3. The marshaller waves permission and/or the aircraft wheels are blocked(choked)
 4. You have waited three minutes and the pilot has not indicated any intention to move the aircraft
- 18) When vehicles are parked in an approved parking space in the vicinity of Terminal Buildings or adjacent to heavy traffic areas, they should be:
1. Left with beacon or flashing signal lamps in operation
 2. Backed into the parking area
 3. Driven in front first
 4. Left with engine running

5.0 AIRSIDE PAVEMENT MARKINGS, LIGHTS AND SIGNS

- 19) What colour are the pavement markings which outline vehicle corridors and security lines?
1. Green except in grassed areas
 2. Yellow
 3. White
 4. Red at intersections, white in other areas
- 20) What colour are the pavement markings related to aircraft movement guidelines and aircraft lead-in lines?
1. Green except in grassed areas
 2. Yellow
 3. White
 4. Different for each class and type of aircraft
- 21) Select the description below which most accurately describes how vehicle corridors are indicated on paved aprons:
1. Two solid white lines 7.5 m apart, centered by a single broken line
 2. Two broken yellow lines divided by a solid white line
 3. Two solid yellow lines 7.5 m apart, centered by a single broken line
 4. Two solid white lines 7.5 m apart, centered by a broken green line
- 22) The purpose of a taxiway center line is:
1. To indicate where aircraft movement is permitted
 2. To show where aircraft movement is not permitted
 3. To delineate lanes on a taxiway for vehicle movement
 4. To provide center line guidance to aid aircraft travelling on taxiways
- 23) Aircraft lead-in lines are provided to:
1. Lead the aircraft onto the runway when landing
 2. Assist in the docking of an aircraft at a gate
 3. Indicate where aircraft are restricted on an apron
 4. Indicate the limits of vehicle corridors

- 24) What vehicles must stay within vehicle corridors when moving about the apron to or from operational stands, between operational stands, across aircraft taxi lines, etc.
1. Emergency vehicles and vehicles towing aircraft
 2. All vehicles except emergency and airport maintenance vehicles in the performance of their duties
 3. Delivery vehicles except those under escort
 4. Airline service vehicles only
- 25) What vehicles are permitted to operate outside the vehicle corridors on aprons?
1. Emergency vehicles and airport maintenance vehicles while operated in the performance of their duties
 2. Anyone who wishes to pass at speed
 3. No one except the Airport Manager
 4. Both two and three above
- 26) A vehicle operating in the right hand lane of a vehicle corridor has the right of way over:
1. Snow removal equipment engaged in snow removal
 2. Other vehicles entering the corridor
 3. Small aircraft only
 4. All other vehicle traffic
- 27) When operating a vehicle in a vehicle corridor on an apron, the operator may:
1. Use the left hand lane to pass slower vehicles
 2. Leave the vehicle corridor to pass slower vehicles
 3. Drive in the left lane rather than tailgate another vehicle
 4. None of the above
- 28) When operating a vehicle in a vehicle corridor which passes behind an aircraft with engines running, you are required to:
1. Stop well clear of the aircraft and wait until the aircraft has been backed out or the marshaller waves you permission to pass
 2. Pass behind the aircraft as quickly as possible
 3. Leave the vehicle corridor and go around the aircraft at a minimum distance of 15 m
 4. Turn your vehicle around and return to your starting point on the apron

- 29) Vehicle Corridors are:
1. Required to be used at all times regardless of circumstances
 2. Not guaranteed safe routes and caution must always be exercised to avoid parked and moving aircraft
 3. Guaranteed safe routes for vehicles under all circumstances
 4. Provided to ensure the safe and orderly movement of aircraft
- 30) Vehicle operators must always exercise caution:
1. When vehicle corridor markings are obscured due to faded paint, snow cover or any other reason
 2. When entering and leaving the active apron area and entering and leaving vehicle corridors
 3. When operating in front of or behind aircraft with engines running
 4. When any of the conditions indicated above are encountered
- 31) Where vehicle corridors intersect, the vehicle which has the right of way is:
1. The largest vehicle
 2. The vehicle on the left
 3. The vehicle on the right
 4. The vehicle with a cab and flashing or rotating beacon
- 32) When not in use, Ground Service Vehicles and equipment must be parked:
1. On the apron where space is available
 2. In any apron area not used for the movement of aircraft
 3. Behind apron safety lines
 4. In overflow parking
- 33) Which of the following vehicles are allowed to drive beneath a bridge?
1. A tug, when taking the most direct route to park behind apron safety lines
 2. There are no restrictions for driving a vehicle underneath of a bridge
 3. All vehicles, as long as they are licensed to operate on the apron
 4. It is not permissible for a vehicle to drive beneath a bridge
- 34) What is the purpose of a Taxiway Centre Line?
1. To define which side of the taxiway oncoming traffic will be approaching
 2. To ensure aircraft remains on pavement and doesn't contact any obstructions
 3. To guide aircraft into a parking position without contacting any known obstructions
 4. To define where aircraft and vehicles cannot proceed without first obtaining permission from the Air Traffic Controller

- 35) Maneuvering surfaces at an airport that are designated by a letter are:
1. Aprons
 2. Runways
 3. Service Roads
 4. Taxiways
- 36) Runway edge lights are what colour:
1. Red
 2. White
 3. Blue
 4. Amber (Yellow)
- 37) Aprons and taxiway edge lights are what colour:
1. Red
 2. White
 3. Amber (Yellow)
 4. Blue
- 38) Lights are used to indicate the intersection of a taxiway and an apron are what colour:
1. Amber (Yellow)
 2. White
 3. Red
 4. Green
- 39) Black and yellow signs used to indicate a position, direction, or destination on the maneuvering area of an airport are called:
1. Maneuvering Information Signs
 2. Designator Signs
 3. Apron Information Signs
 4. Directional Signs
- 40) Two coloured (doubled faced) threshold marker lights are what colours:
1. Blue and white
 2. Red and white
 3. Red and green
 4. Green and amber

- 41) The colour of threshold marker lights which face towards the runway is which of the following colours:
1. White
 2. Green
 3. Amber
 4. Red

6.0 SAFETY MARKINGS AND EQUIPMENT REQUIREMENTS FOR APRON AREAS

- 42) All non motorized equipment used on the airport aprons must be equipped with safety markings. Which of the following most accurately describes these markings?
1. Yellow reflective stripe along the sides, and black and yellow patches at the front and rear lower corners
 2. Headlights, tail lights and a horn
 3. Any reflective material that can be seen from 300 m at night
 4. A rotating beacon
- 43) All vehicles with a cab while operating without escort on the airport aprons must be equipped with which of the following lights or markings?
1. An amber flashing or rotating beacon, headlights, parking and tail lights
 2. Headlights, tail lights and reflective tape on both sides
 3. A two-way radio on the citizens band or company frequency
 4. None of the above
- 44) Which of the following most accurately describes that part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landings, excluding aprons:
1. Restricted area
 2. Movement area
 3. Airport area
 4. Maneuvering area
- 45) Which of the following most accurately describes the name of the person directing the movement of aircraft on the ground?
1. Airport Manager
 2. Security Officer
 3. Ramp Agent
 4. Marshaller

46) An airport at which an air traffic control unit is provided is called a:

1. Aerodrome
2. Controlled airport
3. Pass Control Office
4. Uncontrolled airport

47) A road delineated by surface markings on an apron is called a:

1. Vehicle Corridor
2. Aircraft Taxi Line
3. Airport Service Road
4. Aircraft Lead-In Line

D/A SELF TEST ANSWER KEY

1.0

1) 2 2)1 3)3 4)2

2.0

5)2 6)2 7)4 8)1

3.0

9)3 10)1 11)4 12)2 13)3

4.0

14)3 15)2 16)2 17)3 18)2

5.0

19)3 20)2 21)1 22)4 23)2
24)2 25)1 26)2 27)4 28)1
29)2 30)4 31)3 32)3 33)4
34)2 35)4 36)2 37)4 38)1
39)4 40)3 41)4

6.0 & 7.0

42)1 43)1

8.0

44)4 45)4 46)2 47)1