CO-ACTIVITY DURING A SCHEDULED TURN-AROUND OF AN AIRCRAFT

Referenced risk framework and guidelines for prevention measures

Cramif

Sécurité sociale
L'Assurance Maladie
RISQUES PROFESSIONNELS

CHARTE SÉCURITÉ CDG

30 SHEETS TO LEARN ABOUT THE DIFFERENT ACTORS INVOLVED DURING A SCHEDULED TURN-AROUND OF AN AIRCRAFT

COMMON SHEETS

SHEETS REGARDING ACTIVITIES

Co-activity during a scheduled turn-around of an aircraft

Referenced risk framework and guidelines for prevention measures

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FOREWORD

The present publication has been elaborated in the framework of the *Association Charte de Sécurité Roissy-CDG* with the participation of representatives of the Orly and Roissy airport platforms and of collaborators of the Cramif.

It comes logically within the scope of the qualifying training module on co-activity during the scheduled turn-around of an aircraft. This module is designed for employees in charge of the ground handling operations of the aircraft.

This publication is dedicated to companies working on aircraft platforms and in particular to:

- the general manager of each company,
- the head of the “Prevention- Safety Department”,
- the Safety and Health Committee,
- the occupational physician,
- the management staff.

It proposes an analytical description of co-activity: involved actors, the risks they cause and the prevention measures. It is supposed to help each company manager to be more aware of risks employees are exposed to, in order to define and implement a health and safety plan for risk prevention.

This English version is especially intended to manager of the foreign airline companies because they have to contribute plainly to the prevention of risks for the employees working on the apron.

DEFINITIONS – SUMMARY OF THE REGULATIONS

HAZARD OR DANGER

Potential source that may cause harm directly (ex: *toxic, noxious, explosive, inflammable, corrosive or irritating chemical products, electricity, noise, rotating propeller, aircraft engine, heat/cold, exhaust gas…*).

HAZARDOUS SITUATION

Situation endangering an operator (ex: *work at height, close to moving vehicles, handling loads, standing under fuel tank vent outlets…*).

RISK

Combination of the probability of occurrence of harm and the severity of that harm (EN ISO 12100-1:2003).

The risk associated with a particular situation or technical process is derived from a combination of the following elements (Extract of the EN 1050:1996):

- the severity of harm;
- the probability of occurrence of that harm, which is a function of:
  - the frequency and duration of the exposure of persons to the hazard;
  - the probability of occurrence of a hazardous event;
  - the technical and human possibilities to avoid or limit the harm.

CO-ACTIVITY DURING A TURN-AROUND OF AN AIRCRAFT

Situation characterized by simultaneously occurring activities undertaken by various companies, this requiring different installations, materials and employees working in and around the plane in the specific conditions of a scheduled turn-around.

Co-activity generates additional risks or increases the risks that are specific to each company.

SECURING THE AIRCRAFT

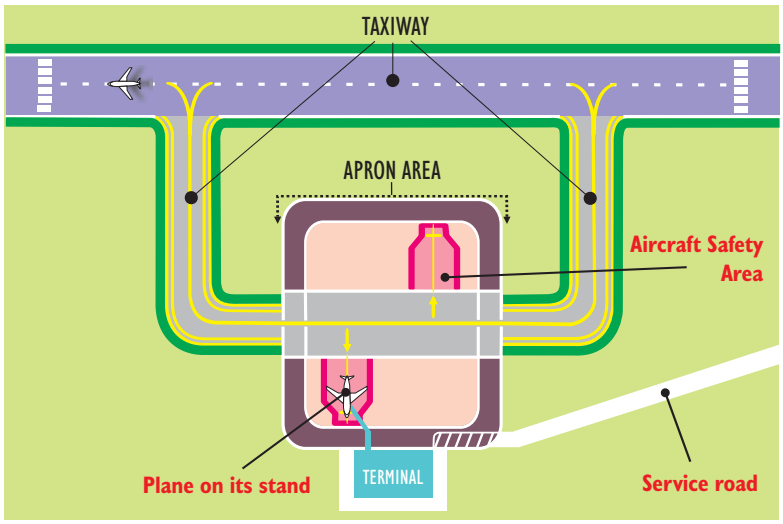
The aircraft is correctly parked, chocks and protections are implemented, engines and propellers are stopped, anti-collision lights are switched off and a passenger boarding bridge or stairs are properly placed.

Comment: "securing the aircraft" is a matter defined by the docking procedures, specific to each airline company.

MOVEMENT AREA

The mouvement area is made of the taxiways, the apron areas and the enclosed areas.

- runway
- aircraft taxiway lane
- equipment lane
- aircraft parking area
- enclosed areas



DEFINITIONS REGARDING PARKING POSITIONS

(extract of the operating regulations dated Nov. 02, 2000 for ROISSY-CDG and Nov. 22, 2000 for ORLY).

Apron areas

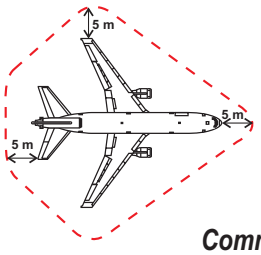
Specific aircraft areas located on the ramp of an airport and especially dedicated to embarking or disembarking passengers, mail or fret loading or unloading, re-fuelling or de-fuelling, parking or maintenance and to which the lanes for the use of the different vehicles serving these areas are associated, as well as the crossing of accordingly marked aircraft taxiway lanes and service roads.

An apron area is made of:

- *Aircraft taxiway lanes of the apron areas*
  - Part of a taxiway lane network located on the apron area and intended to mark a route allowing aircrafts to cross this area. The boundary between these lanes and the taxiway area is marked with a yellow dotted line called the lane crossing mark.
- *Access lanes to parking areas*
  - Part of an apron area entitled as a service road and intended to give ground vehicle access to aircraft parking areas.
- *Aircraft parking areas*
  - Part of the apron area that is not including the aircraft taxiway lanes of the apron area, the access lanes to parking areas, the equipment lanes, the service roads and the enclosed areas. The boundary between the parking stands and the clearing of aircraft taxiway lanes is marked with a white painted line called the safety line.

ASA-Aircraft Safety Area: this area is delimited by the white safety line on the aircraft lane side and on the other sides by a red-white-bordered-line.

On some platforms this area may eventually not be marked or be marked differently; it can also only exist when the aircraft is arriving or about to leave its stand.

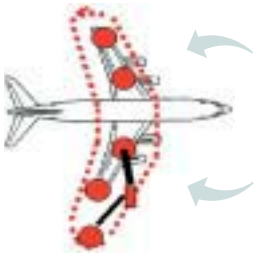


Anti-collision safety area

Anti-collision safety area: a polygon at a 5 metre-distance of the extreme ends of the aircraft on its parking stand (wings, nose and tail).

Comment: the anti-collision safety area is not marked; it is replacing the ASA when the latter does not exist (case of some airports).

Fire safety area: This area is not marked. It envelopes externally during fuelling at a 3 metre-distance, the fuel tanks, the fuelling pipes and the fuelling vehicles.



Fire safety area

RESPECT OF THE SAFETY RULES DURING THE SCHEDULED TURN-AROUND OF AN AIRCRAFT

(extract of the operating regulations of Nov. 02, 2000 for ROISSY-CDG and of Nov. 22, 2000 for ORLY - article 6.1: Responsible of the airline company).

The airline company or representative in charge of the aircraft must appoint among the employees responsible for the maintenance, loading and unloading operations a person who will be in charge of the respect of the safety rules prescribed by the present regulations concerning the aircraft, the equipments and the staff.

This person has to make sure that all manoeuvres can be achieved without endangering the neighbouring stands. She has also to make sure that the handling operations do not interfere with the ASA of the neighbouring stands.

30 SHEETS TO LEARN ABOUT THE DIFFERENT ACTORS INVOLVED DURING A SCHEDULED TURN-AROUND OF AN AIRCRAFT

All those concerned with handling operations during a turn-around of an aircraft are exposed to:

- their **own** risks specific to their activity,
- the risks they are **subjected** to, that is to say the risks **generated** by other activities in relation with the aircraft handling.

The employer has to report the occupational risk assessment in a ***"document unique"***. To this end, he must first identify all the risks the employees of his company are facing: the **own** risks specific to his activity **and** the risks they are **subjected** to, coming from others.

Prevention measures do not only depend on each company but they generally come from an arrangement of various measures implemented by the different actors. Companies have to describe in the ***"plans de prévention"***, the appropriate means and organizations able to ensure the coordination of their activities.

The following pages have been created in collaboration with airline companies and companies in charge of ground handling of the aircrafts during a scheduled turn-around. These companies endeavoured to describe the risks they **generate** to others and to propose prevention measures.

A table summarizes all the risks generated by each party (see next page).

As **own** risks are specific to each activity, they are not mentioned in the sheets. However, it must be reminded that co-activity may increase the possible occurrence or severity of some existing hazardous situations.

30 DIFFERENT SHEETS ARE HERE ENCLOSED AS FOLLOW:

- ✔ 4 common sheets,
- ✔ 26 specific sheets.

They aim at helping the various employers to:

- identify co-activity-related risks,
- jointly specify prevention measures to be achieved,
- complete their risk assessment in the "*document unique*",
- prepare the "*plans de prévention*".

A practical example of the use of the various sheets is shown at the end of the present document page 73.

GENERATED RISKS

Oral communication or through gesture	Congestion – Protuberant parts	Low visibility	High winds	Armed escape slide	Electrocution	Crushing, shearing, trapping hazard	Noise	Blast, aspiration, projection – Propellers in motion	Hot spots	Inflammable product	Exhaust gas	Vapour, gas, aerosol – Chemical, biological agents	Shock, vehicle collision	Slippery, uneven or unsteady ground	Fall on the level	Object fall – Overhead activities	Linked to height		SHEET N°
									●									The pedestrian	1-1
							●				●		●					The vehicle or self-propelled GSE	1-2
	●			●			●	●	●	●	●		●				●	The aircraft	1-3
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		●	●			●							●			●	●	Assisting disabled passengers	2-8
●	●					●							●	●				Tractor and carts	2-9
						●	●				●		●	●		●	●	Conveyor belt loader	2-10
		●				●	●				●		●			●	●	Container/pallet loader	2-11
													●					Luggage for a short time connection	2-12
		●				●					●		●					TrT	2-13
●		●				●					●		●			●	●	Fret transfer by truck	2-14
	●	●											●			●		Forklift truck	2-15
	●	●	●			●	●				●		●			●	●	Catering	2-16
	●	●	●			●	●				●		●			●	●	Cabin servicing	2-17
	●				●							●	●		●		●	Cabin cleaning	2-18
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						●				●		●	●	●	●			Refuelling	2-21a and b
			●			●						●			●			De-icing Anti-icing	2-22
●							●				●		●		●			Moving/pushing back the aircraft	2-23 and 2-24

This table aims at gathering in a **very synthetic** way the main risks generated by the various operations carried out while ground handling the aircraft during a stop. It is built upon information coming from the different sheets. The reader is **strongly invited** to read these sheets in order to become aware of hazards and hazardous situations.

COMMON SHEETS


AKN498
AKE22050CO

SHEET 1-1

THE PEDESTRIAN

PEDESTRIAN: EVERYBODY WALKING NEAR OR AROUND THE AIRCRAFT

RISKS

Risk exposure

A pedestrian working near an aircraft during a scheduled turn-around is exposed to risks generated by other simultaneously occurring activities. These risks can combine with other risks or increase risks that are specific to the pedestrian's activity.

A very frequent hazardous situation

- Working near moving vehicles or equipments.

Created risks

Hazardous situation

- Hot spots (cigarettes, mobile phones …) in an inflammable atmosphere (fuelling).

☞ **Consequences**: burns or severe traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Restricting the number of persons involved in the activity.

Collective measure

- Physical separation between pedestrians and vehicles.

Personal Protection Equipment (PPE)

- High-visibility jackets,
- Safety shoes,
- Ear protectors.

Instructions and training

- Training to co-activity,
- Training to the use of fire extinguishers (especially those used on aprons),
- Respect of pedestrian lanes, pedestrian walkways,
- Respect of instructions related to the approach of the aircraft,
- Respect of non-smoking areas and of restricted use of cellular phones.

Measure to be taken in case of emergency

- First aid workers.


N27015

SHEET 1-2

THE VEHICLE OR THE SELF-PROPELLED GSE

RISKS

Risk exposure (also concerning passengers)

Working in co-activity around an aircraft during a scheduled turn-around exposes the driver to risks generated by other simultaneously occurring activities. These risks can combine with other risks or increase risks that are specific to the driver's activity.

Generated risks

Hazards

- Exhaust gas,
- Noise.

Hazardous situation

- Moving around and manoeuvring near pedestrians or other vehicles or GSE.

☞ **Consequences**: intoxications of the respiratory tract,
severe traumas that may lead to death, hearing impairment.

PREVENTION MEASURES

Integrated or organizational measures

- Keeping apart the flows of vehicles, GSE and pedestrians,
- One-way traffic lanes,
- Restricting the number of vehicles and GSE,
- Coordinating all actors,
- Work organization taking into account foreseeable travel times,
- Supervision of reverse movements by a person on the ground,
- Speed limiter, driving-aid-devices (for example a video camera for moving backwards),
- Use of fuel with a sulphide rate inferior to 0,05%,
- Filter catalytic converters,
- Planning noise reduction of GSE during the design stage,
- Closed driving cabin,
- Maintenance of vehicles, regular checks.

Collective measure

- Physical separation between pedestrians and vehicles.

Personal Protective Equipment (PPE) at disposal

- High-visibility-jackets,
- Safety shoes,
- Ear protectors,
- Safety belt of the vehicle or GSE.

Instructions and training

- Training and specific medical ability,
- Training to co-activity,
- Apron license, CACES,
- Respect of driving code and respect of instructions relative to accesses situated close to the aircraft (in particular: stop before entering the ASA, moving clockwise around the aircraft),
- Respect of traffic lanes and ground marking,
- Proper use of warning horns and lights.

Taxi lights

SHEET 1-3

THE AIRCRAFT

RISKS

Generated risks

Hazards

- Blast of running engines,
- Aspiration by running engines,
- Rotating propellers,
- Exhaust gas,
- Fuel, in particular near the tank vent outlets,
- Hot spots (brakes, engines),
- Protuberant parts of the aircraft,
- Engines and APU noise.

Hazardous situations

- Working at height,
- Working near the aircraft while objects or equipments may be thrown up or overturned,
- Opening an aircraft door that is still armed (emergency slide).

☞ **Consequences**: serious injuries including death, hear impairment, intoxications of the respiratory tract.

PREVENTION MEASURES

Integrated or organizational measures

- The aircraft has right of way over pedestrians, GSE and vehicles as soon as the anti-collision lights are on,
- The approach of the aircraft is possible when:
  - engines have been cut off and propellers have completely stopped,
  - the aircraft has been chocked up,
  - anti-collision lights have been switched off,
  - the signalman has given authorization, rising the right arm, thumb up,
- The aircraft doors can only be opened when a platform has been placed at corresponding appropriate height.

Collective measures

- Closed, near at hand and numerous FOD refuse-bins,
- Identified specific storage spaces (for chocks for example),
- Blast fences.

Instructions and training

- Coordination with the Air crew,
- Awareness and respect of the IATA rules related to ground handling of an aircraft,
- Awareness and respect of the procedures that are specific to the airline company,
- Respect of instructions regarding access and parking areas close to aircrafts,
- Cleaning and tidiness of the areas.

Stand centre line

Drive unit of a boarding bridge

Blast fences

SHEET 1-4

THE AIRCRAFT PARKING AREA, THE ASA

Risks

Generated risks

Hazards

- Strong wind or wind blowing in gusts,
- Ice, snow or wet ground,
- Slippery ground because of fuel or de-icing products.

Hazardous situations

- Moving around on slippery or obstructed apron,
- Moving around on uneven surfaces or having potholes,
- Working at night in badly lit areas or by foggy weather.

☞ **Consequences**: injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Weather forecast alert and interruption of ground handling operations,
- Specific areas dedicated to some operations for example anti-icing/de-icing,
- Roads in good condition, without any discontinuity, with appropriate slope form,
- Regular cleaning of areas,
- Snow removal and defrosting of areas, with clearly identified snow storage areas,
- Clearly identified and sufficiently numerous parking areas.

Collective measures

- Racks equipped with container holders,
- Closed, near at hand and numerous FOD refuse-bins,
- Identified specific storage spaces (for chocks for example),
- Blast fences,
- Sufficient but non dazzling lighting.

Instructions and training

- Ground-marking delimiting the various areas and the different traffic ways,
- Clear and easily readable ground-marking especially dedicated to the placing of the aircraft,
- Pedestrian walkways,
- Vertical and horizontal marking.

Measures to be taken in case of emergency

- Fire extinguishers,
- Emergency stops specifically dedicated to the fire hydrant network,
- Telephone to contact emergency services,
- Absorbent product (for liquids),
- Removal of spilt products on the ground.

SHEETS REGARDING ACTIVITIES

SHEET 2-1 — PLACING THE AIRCRAFT

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Guiding the aircraft while approaching its parking position.	• An employee (signalman), • One or several assisting co-workers, • Accessories: “rackets”, luminous sticks, high-visibility gloves.	• Using a specific appropriate gesture according to AHM recommendations to guide the pilot to safely manoeuvre the aircraft to its parking position.	• As soon as the aircraft is appearing in the signalman’s field of vision, it is absolutely necessary to start guidance operations. A delay could lead to serious consequences in terms of safety on apron areas and taxiways.

RISKS

Risk exposure

Positioning the aircraft exposes the employees to risks caused by other simultaneously occurring activities, in particular:

Hazardous situations

- Working near moving vehicles,
- Working near running engines.

Generated risks

Hazard

- Objects left on the ASA.

Hazardous situation

- Inappropriate aircraft positioning.

☞ **Consequences**: very numerous, eventually death.

PREVENTION MEASURES

Integrated or organizational measures

- Top priority must be given to the signalman over the moving vehicles and GSE,
- The parking area must be sufficiently opened so that the signalman can be seen by the pilot.

Instructions and training

- Checking that the parking stand is in conformity (cleanliness, safety),
- Parking vehicles outside the ASA,
- Staying in a traffic-free area; if impossible, traffic must be interrupted.

Protecting the wing tips

Aircraft chocks

SHEET 2-2 — CHOCKING AND PROTECTION OF THE AIRCRAFT

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• To secure the aircraft. • To signal the engines, the wing tips and the fuselage tips. • To authorize the aircraft approach.	• A signalman and his co-workers, • Wooden chocks, • Cones.	• Chocking the landing gears. • Positioning the cones at the wing tips and engines right side. • Thumb up to authorize others to approach the aircraft.	• Chocking up the aircraft is prior to others' actions, in particular disembarking passengers.

RISKS

Risks exposure

Chocking and securing the aircraft expose employees to risks caused by other simultaneously occurring activities, in particular:

Hazardous situation

- Working close to running engines or propellers.

Generated risks

Hazardous event

- Gesture misunderstood by others.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational methods

- Chocking up is carried out under the signalman's responsibility,
- The signalman has the authority of decking the aircraft.

Instructions and training

- Respect of chocking procedures, according to the company and aircraft type,
- Admission of others in the ASA after:
  - the propellers have completely stopped,
  - the anti-collision lights are switched-off,
  - signalman's authorization,
- Knowledge of the appropriate aircraft guiding gestures.

SHEET 2-3 — GPU, ACU, ASU

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Aircraft power supply. • Air conditioning supply. • Starting the engines.	• Employees, • Ground Power Unit (GPU), • Air Conditioning Unit (ACU), • Air Starter Unit (ASU).	• Placing and chocking up the GSE. • Connecting the aircraft according to the recommended instructions (power, cables and connections). • Communication with Flight crew for connection, starting, stopping and disconnection.	• Connection and starting depend on the Flight crew's decisions and on specific procedures corresponding to the type of aircraft. • Commercial and technical consequences (power supply of the equipments of the aircraft).

RISKS

Risks exposure

Connecting equipments exposes employees to risks caused by other simultaneously occurring activities.

Generated risks

Hazards

- Electricity,
- Cables and pipes lying on the ground,
- Noise,
- Exhaust gas.

Hazardous situation

- People moving around under the connections.

☞ **Consequences**: electrocution, injuries and traumas, hearing impairment, intoxications of the respiratory tract.

PREVENTION MEASURES

Integrated or organizational measures

- Braking and stopping system for GSE,
- Sound insulation of GSE,
- Maintenance (plugs connections, fitting pieces).

Instructions and training

- Using plugs to disconnect the cables,
- No driving on cables and connecting pipes,
- Positioning the exhaust pipes.

Measure to be taken in case of emergency

- Emergency stop device.

SHEET 2-4 a

FLIGHT CREW

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• To enable ground handling of the aircraft during a turn-around. • To prepare the flight in respect to the procedures.	• A captain, • A first officer, • A flight engineer (eventually).	• Check-lists. • Exchange of information and data with the ground staff.	• Take-off slots are sometimes short (10 min.). • Previous flight delays are cumulating. • Remaining problems must be solved.

RISKS

Risks exposure

Ground handling of an aircraft during a turn-around and preparing the next flight expose the Flight crew to risks caused by other simultaneously occurring activities.

Generated risks

Hazardous situations

- Moving some mobile elements of the aircraft,
- Starting propellers or engines.

Hazardous event

- Misunderstood oral communication or gesture.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- The captain is THE sole decision-maker,
- Referenced and mastered procedures.

Collective measures

- Coordination with the airport authority,
- Coordination with the Cabin crew,
- Coordination with the ground staff, in particular by radio contact or cable contact.

Instructions and training

- Further training confirmed by a qualification,
- Evacuation of the ASA and switching on the anti-collision lights before starting the engines.

Measures to be taken in case of emergency

- Extinguishers,
- Escape slides.

SHEET 2-4 b

CABIN CREW

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Safely embarking or disembarking the passengers. • Preparing the cabin before welcoming the passengers.	• A cabin officer • Hostesses or stewards.	• Exchange of information and data with the ground staff.	• Previous delayed flights are cumulating. • Passengers' remaining problems must be solved.

RISKS

Risks exposure

Ground handling of an aircraft during a turn-around and preparing the next flight expose the Cabin crew to risks generated by other simultaneously occurring activities.

Hazardous situation

- Working at height.

Generated risks

Hazardous situations

- Working at height,
- Simultaneously occurring activities.

Hazardous event

- Misunderstood oral communication or gesture.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- The captain is THE sole decision-maker,
- Referenced and mastered procedures.

Collective measures

- Coordination with the Air crew,
- Coordination with the ground staff, in particular through appropriate gestures.

Instructions and training

- Further training confirmed by a qualification,
- Open an aircraft door only when there is a platform at height,
- Close the aircraft door before removing the platform.

Measures to be taken in case of emergency

- Extinguishers,
- Escape slides.

SHEET 2-5 — EMBARKING AND DISEMBARKING PASSENGERS WITH A BOARDING BRIDGE

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Embarking and disembarking passengers and air crew with a passenger boarding bridge directly from the airport.	• A qualified employee who has been confirmed by the airport authority. • A passenger boarding bridge.	• Positioning the passenger boarding bridge in connection with the aircraft. • Checking the respect of compulsory safety rules. • Communication with the Cabin crew before opening doors and disembarking passengers.	• Disembarking passengers first (commercial deadline: 1 minute).

RISKS

Risks exposure

Embarking and disembarking passengers expose employees to risks generated by other simultaneously occurring activities.

More specific hazard

- The aircraft door that is still armed (escape slide).

Additional hazardous situation

- Working near some aggressive passengers.

Generated risks

Hazardous situations

- Limited visibility and necessity of paying a lot of attention to the approaching aircraft,
- Working at height,
- Overhead activities.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Work place design, field of vision,
- Braking and stopping devices,
- An automatic levelling system,
- Stairs and platform covered with an anti slip surface (also in bad weather conditions),
- Contact with the Cabin crew.

Collective measures

- Guard rails tied down to the contact with the fuselage,
- Anti-crash device on the drive unit.

Instruction and training

- CACES (draft),
- Visual control with a video camera,
- Respect of the movement areas marked by “zebra” lines,
- No parking within the movement area of the passenger boarding bridge,
- Warning light and audible alarm.

Measure to be taken in case of emergency

- Emergency stop device.

SHEET 2-6 — EMBARKING AND DISEMBARKING PASSENGERS WITH PASSENGER STAIRS

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Embarking and disembarking the passengers and Air crew. • To be used as a service access to the aircraft during a turn-around.	• An employee, • A GSE (towed or self-propelled, with or without a canopy).	• Approaching, positioning and stopping the GSE. • Adjusting the steps and platform level with the aircraft. • Communication with the Cabin crew for door opening and passenger disembarking.	• Disembarking passengers first (commercial deadline: 1 minute)

RISKS

Risks exposure

Embarking and disembarking passengers expose the employees to risks generated by other simultaneously occurring activities.

More specific hazard

- The aircraft door is still armed (escape slide).

Other hazardous situation

- Working near some aggressive passengers.

Generated risks

Hazard

- Overturn of the GSE under high winds.

Hazardous situations

- Work at height.
- The following conditions increase the probability:
  - the driver does not see the platform from the operator's cabin,
  - if the GSE is removed while the aircraft door is open.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Design of the operator's cabin, field of vision,
- Braking and stopping devices,
- Stairs and platform covered with an anti slip surface (also in bad weather conditions),
- De-icing of the stairs and the platform,
- Contact with the Cabin crew.

Collective measure

- Banisters and guard rails.

Instructions and training

- CACES (draft),
- Signalling by the means of a material device that removing the GSE is about to occur,
- Removing the GSE only if the aircraft door is locked, after communication between the ground staff and the flight responsible,
- Checking that nobody is staying on the stairs or on the platform when the manoeuvre is carried out.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-7 — TRANSPORTING PASSENGERS

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Transporting passengers in a vehicle from the terminal to the aircraft. • Transferring eventually passengers from place to place.	• A driver, • A standard bus or a specific vehicle (AEROBUS, COBUS…).	• Approaching the aircraft or the terminal. • Parking in a specific area (outside the ASA). • Embarking or disembarking passengers in collaboration with the ground staff or the Cabin crew.	• Disembarking passengers first. • Each delay can disturb the progress of the turn-around.

RISKS

Risks exposure

Transporting passengers exposes employees to risks generated by other simultaneously occurring activities.

Other hazardous situation

- Working near some aggressive passengers.

Generated risks

Hazards

- Shearing-off zones in the lifting device (*),
- Exhaust gas.

Hazardous situation

- Obstruction of the ASA (*).

☞ **Consequences**: injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Accompanying passengers from the bus to the aircraft door or terminal,
- Contact with the Cabin crew.

Collective measures

- CACES (draft) (*),
- Marking service roads and parking areas,
- Coordinating guidance operations,
- No parking behind buses.

PLEASE, REFER ALSO TO SHEET 1-2

(*) these items are related to AEROBUS.

SHEET 2-8 — ASSISTING DISABLED/ INCAPACITATED PASSENGERS

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Transporting disabled/incapacitated passengers from the terminal to the aircraft. • Helping them to embark or disembark the aircraft.	• Medical staff eventually, • A wheelchair or a stretcher for the transport of disabled/incapacitated passengers, • A passenger boarding bridge, or • A driver and a GSE equipped with a van body.	• Approach, positioning and stopping the material. • Elevating the vehicle platform. • Docking the aircraft at door sill height. • Opening the door of the aircraft (according to the instructions of the airline company). • Transferring the passenger on a wheelchair or on a stretcher.	• Necessity to proceed before embarking or disembarking of passengers (at the beginning or in the end of the operation).

RISKS

Risks exposure

Transferring disabled/incapacitated passengers exposes the employees to risks generated by other simultaneously occurring activities.

More specific hazard

- The aircraft door is still armed (escape slide).

Generated risks

Hazards

- Shearing off-zones in the lifting device,
- Overturn of the GSE under high wind.

Hazardous situations

- Work at height,
- Limited visibility while moving backwards,
- Overhead activities.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Contact with the Cabin crew.

Collective measures

- Platform with adjustable tip moulding the round shape of the fuselage,
- Guard rails on the platform,
- Device forbidding access under the van when elevated,
- Stabilizers, tilt control.

Instructions and training

- CACES (draft),
- Positioning the vehicle perpendicular to the fuselage,
- Visual check by means of a video camera for moving backwards,
- Audible alarm for moving backwards.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-9 — TRANSFERRING LUGGAGE AND FRET WITH A TRACTOR AND CARTS

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Conveying or carrying away luggage and fret.	• A group of employees, • A tractor, • 1 to 4 carts.	• Positioning carts close to the conveyor belt loader. • Transferring luggage and fret manually.	• Luggage unloading time influences passengers' waiting time.

RISKS

Risks exposure

Transferring luggage and fret exposes employees to risks generated by other simultaneously occurring activities.

Generated risks

Hazardous situations

- Traffic flow disturbed by a long articulated convoy,
- Misunderstood guidance gestures,
- People standing on the carts,
- People standing between the carts.

☞ **Consequences**: serious injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Length of the convoy limited to 22 metres and 4 carts,
- Coordination of all actors.

Collective measure

- Braking and stopping devices on carts.

Instructions and training

- CACES (draft),
- Training relative to "Transport of hazardous goods",
- Parking outside the ASA,
- Entering the ASA advisedly,
- Crossing a convoy is strictly forbidden.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-10 — LOADING AND UNLOADING WITH A CONVEYOR BELT LOADER

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Access to the bulk hold. • Loading and unloading bulk stuff (luggage, fret, mail).	• Employees, • Self-propelled or towed GSE.	• Approaching, positioning and stopping the GSE. • Elevating the boom of the conveyor. • Accessing on the conveyor belt. • Opening the hold door. • Accessing to the hold. • Handling luggage and fret manually.	• The GSE must be placed as soon as the aircraft has arrived. Some luggage must be immediately delivered to passengers (for example baby buggy or roll chair).

RISKS

Risks exposure

Transferring bulk luggage and fret exposes employees to risks generated by other simultaneously occurring activities.

Hazardous event

- Unexpected starting of the belt by a third party.

Generated risks

Hazards

- Moving belt,
- Tripping zones,
- Exhaust gas,
- Noise.

Hazardous situations

- Working at height,
- Overhead activities,
- Manual handling of loads at height.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- No tripping zones.

Collective measure

- Side guard rails.

Instructions and training

- CACES (draft),
- Training relative to “Transport of hazardous goods”,
- Walking on the conveyor belt is allowed only when the latter is completely stopped,
- Keeping away from the conveyor belt,
- Keeping material in contact with the aircraft as long as employees are still remaining in the bulk hold.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-11 — LOADING AND UNLOADING WITH A LOADER

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Loading and unloading pallets and containers in the hold.	• An employee, • A staff in charge with manual handling, • An elevating platform or loader.	• Approaching, positioning and stopping the material. • Elevating the front platform. • Opening the hold door. • Entering the hold. • Handling containers or pallets: translation, rotation, elevation. • Transferring container to the hold, to dollies or to a Transfer Transporter (TrT).	• Commercial deadline to unload the first container: 5 minutes. • The GSE must be properly positioned to operate.

RISKS

Risks exposure

Transferring pallets and containers exposes employees to other simultaneously occurring activities.

Hazardous situation

- Falling objects when opening the hold door.

Generated risks

Hazards

- Shearing-off zones in the lifting device,
- Exhaust gas,
- Noise.

Hazardous situations

- Limited visibility during the manoeuvre,
- Work at height,
- Overhead activities,
- Handling loads at height.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Securing loads on pallets,
- Closing containers,
- Coordinating all the actors.

Collective measures

- Sensitive bars,
- Guard rails and crinoline,
- Stabilizers,
- Retractable guide rails.

Instructions and training

- CACES (draft),
- Training relative to “Transport of hazardous goods”,
- No access and no lifting of personnel on the main platform,
- Down lift of the main platform to handle pallets or containers in lowered position,
- Keeping away from the loader area,
- Warning light and audible alarm.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-12 — TRANSFERRING LUGGAGE FOR A SHORT TIME CONNECTION

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Forwarding luggage during a short time connection.	• An employee, • A van or an apron tractor.	• Searching, identifying, conveying some luggage during a short time connection.	• Strong commercial constraint due to the short time allotted for some flight connections.

RISKS

Risks exposure

Transferring luggage during a short time connection exposes employees to risks generated by other simultaneously occurring activities.

Generated risks

Hazardous situation

- Working in emergency.

☞ **Consequences**: injuries and traumas.

PREVENTION MEASURES

Instructions and training

- CACES,
- Stop before entering the ASA,
- Respect of the driving code.

PLEASE, REFER ALSO TO SHEET 1-2

a Transfer Transporter (TrT)

SHEET 2-13 — TRANSFERRING PALLETS/CONTAINERS WITH A TRANSFER TRANSPORTER (TrT)

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Conveying pallets and containers.	• An employee, • A staff in charge of manual handling, • A Transfer Transporter (TrT).	• Positioning in contact with the storage racks or with the loader. • Unloading pallets and containers. • Short-distance transfer.	• Transferring pallets/ containers must be in line with the loading plan of the aircraft.

RISKS

Risks exposure

Transferring pallets and containers exposes employees to risks generated by simultaneously occurring activities.

Generated risks

Hazardous situations

- Limited visibility during loading manoeuvres,
- Misunderstood guiding gestures,
- Motorized handling of pallets and containers.

☞ **Consequences**: injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Storage racks located close to hand,
- Fastening loads on pallets.

Collective measures

- CACES (draft),
- Training relative to “Transport of hazardous goods”,
- Stop before entering the ASA.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-14 — TRANSFERRING FRET WITH A TRUCK

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Transferring fret and mail between the "fret" area and the aircraft parked on the "passenger area".	• An employee, • A tractor and a trailer, • Storage racks, • Wooden box for bulk material.	• Handling, (un)loading, fastening ULD in cooperation with the handling staff. • Documentary record check.	• Difficult traffic near the aircraft because of the vehicle size and the lack of space. • Limited time allotted to the transfer between the aircraft and the fret area.

RISKS

Risks exposure

Fret transfer exposes employees to risks generated by other simultaneously occurring activities.

Hazardous event

- Unexpected handling of a container by a third party.

Generated risks

Hazards

- Containers in an elevated position.

Hazardous situations

- Working close to containers being handled,
- Very long articulated truck with blind angles,
- Misunderstood guiding gestures.

☞ **Consequences**: injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Waiting outside the ASA,
- Fastening loads on pallets.

Collective measure

- Safety locking device for ULD on the trailer.

Instructions and training

- Driving license for heavy or super heavy trucks,
- Training relative to "Transport of hazardous goods",
- Guiding when reversing towards an aircraft.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-15 — TRANSFERRING LOADS WITH A FORKLIFT TRUCK

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Lifting and removing loads.	• An employee, • A forklift truck.	• Lifting loads with the forks.	• Working in coordination with all those involved.

RISKS

Risks exposure

Transferring loads exposes employees to risks generated by other simultaneously occurring activities.

Generated risks

Hazards

- Forks up in the air or on the ground.

Hazardous situations

- Handling loads at height,
- Limited visibility when carrying out some manoeuvres.

☞ **Consequences**: injuries and traumas

PREVENTION MEASURES

Instructions and training

- CACES,
- Driving restricted to authorized employees,
- No lifting of person.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-16

CATERING

FINALITY IN THE JOB SENSE

- Supplying the aircraft with catering material and services (meals, snacks placed in trolleys or storage units, newspapers, dustbins...).
- Removing catering stuff from the previous flight.

HUMAN AND MATERIAL MEANS

- One or two employees according to the provision of service,
- A catering truck,
- A supervisor in a van (eventually).

WORKING METHODS

- Approaching, positioning and stopping the GSE.
- Lifting the van body.
- Docking at the height of the aircraft door sill.
- Opening the aircraft door (according to the instructions of the airline company).
- Transferring catering.

CONSTRAINTS *(in particular time-related constraints)*

- Operation can only occur after having secured the aircraft and disembarked passengers.
- The time dedicated to service the aircraft is computed by the airline company according to the flight, the type of aircraft and duration of the turn-around.
- The good positioning of the truck depends on the traffic density on the ASA.

RISKS

Risks exposure

Catering exposes employees to risks generated by other simultaneously occurring activities.

More specific hazard

- The aircraft door is still armed (escape slide).

Hazardous situations

- Working right under an opened door of the aircraft,
- Working at height while the GSE has a slanting position towards the fuselage of the aircraft.

Generated risks

Hazards

- Shearing-off zones in the lifting device,
- Overturn of the GSE under high wind,
- Exhaust gas,
- Noise.

Hazardous situations

- Working in a traffic congested area,
- Limited visibility while moving backwards,
- Working at height,
- Overhead activities,
- Handling loads at height,
- Obstructing the cabin alley with catering and flight materials.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated and organizational measures

- Contact with the Cabin crew,
- Guiding by a person when reversing, if poor visibility backwards,
- Coordination of the actors.

Collective measures

- Platform with adjustable tip moulding the round shape of the fuselage,
- Guard rails on the platform,
- Device forbidding access under the van when elevated,
- Stabilizers, tilt control.

Instructions and training

- CACES (draft),
- Driving license for light or heavy goods vehicles,
- Positioning the truck perpendicular to the fuselage,
- Stopping the engine during catering,
- Visual check with the help of a video camera for reversing,
- Audible alarm when moving backwards,
- No standing at the aplomb of the platform,
- No access to the platform, except authorized personnel.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-17

CABIN SERVICING

FINALITY IN THE JOB SENSE

- Supplying the aircraft with the flight servicing materials (blankets, pillows and headrests, brochures and newspapers...).
- Removing servicing materials of the previous flight.

  Medium-haul-flights are serviced by the team in charge of cleaning the cabin.

HUMAN AND MATERIAL MEANS

- Two employees,
- A servicing truck (similar to a catering truck).

WORKING METHODS

- Approaching, positioning and stopping the GSE.
- Lifting the van body.
- Docking at the height of the aircraft door sill.
- Opening the aircraft door (according to the instructions of the airline company).
- Transferring servicing materials.

CONSTRAINTS *(in particular time-related constraints)*

- Operation can only occur after having secured the aircraft and disembarked passengers.
- The time dedicated to service the aircraft is computed by the airline company according to the flight, the type of aircraft and duration of the turn-around.
- The good positioning of the truck depends on the traffic density on the ASA.

RISKS

Risks exposure

Supplying the servicing materials exposes employees to risks generated by other simultaneously occurring activities.

More specific hazard

- The aircraft door is still armed (escape slide),
- Soiled syringes.

Hazardous situations

- Working right under an opened door of the aircraft,
- Working at height while the GSE has a slanting position towards the fuselage of the aircraft.

Generated risks

Hazards

- Shearing-off zones in the lifting device,
- Overturn of the GSE under high wind,
- Exhaust gas,
- Noise.

Hazardous situations

- Working in a traffic congested area,
- Limited visibility while moving backwards,
- Working at height,
- Overhead activities,
- Handling loads at height,
- Obstructing the cabin alley with flight materials.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated of organizational measures

- Contact with the Cabin crew,
- Guiding by a person when reversing, if poor visibility backwards,
- Coordination of the actors.

Collective measures

- Platform with adjustable tip moulding the round shape of the fuselage,
- Guard rails on the platform,
- Device forbidding access under the van when elevated,
- Stabilizers, tilt control.

Instructions and training

- CACES (draft),
- Driving license for light or heavy goods vehicles,
- Positioning the truck perpendicular to the fuselage,
- Stopping the engine during catering,
- Visual check by means of a video camera for reversing,
- Audible alarm when moving backwards,
- No standing at the aplomb of the platform,
- No access to the platform, except authorized personnel.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-18

CABIN CLEANING

FINALITY IN THE JOB SENSE

- Cleaning the inside of the aircraft.
- Tidying up the cabin.

HUMAN AND MATERIAL MEANS

- Employees,
- A van to transfer employees to the aircraft,
- Vacuum cleaners and cleaning products.

WORKING METHODS

- Vacuum cleaning; use of products specified by the airline company (floor, carpets, windows, toilets...).
- Tidying up the cabin.
- Rubbish removal, except those providing from catering.

CONSTRAINTS *(in particular time-related constraints)*

- Operation can only occur after having secured the aircraft and disembarked passengers.
- The time dedicated to clean and prepare the aircraft is computed by the airline company according to the flight, the type of aircraft and duration of the turn-around.
- The time pressure is strong.

RISKS

Risks exposure

Cleaning the cabin exposes employees to risks generated by the other simultaneously occurring activities.

Specific hazardous situation

- Soiled syringes, in particular in the back pockets of the seats.

Generated risks

Hazards

- Electricity for vacuum cleaners,
- Cleaning chemicals.

Hazardous situations

- Obstruction of the cabin alley,
- Obstruction of the stairs platform,
- Electrical cables along the cabin alley,
- Electrical cables along the steps leading to the aircraft,
- Working near an open aircraft door to remove waste containers.

☞ **Consequences**: electrocution, allergies, intoxications of the respiratory tract, injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Contact with the Cabin crew,
- Coordination of all the actors,
- Maintenance of the electrical equipments.

Collective measures

- Specific refuse-bins for syringes at passengers' disposal,
- Electrical protection per differential circuit-breaker,
- Guard rails on the platform of the stairs.

Instructions and training

- Driving license for light vehicles,
- Stairs platform facing the aircraft door is obligatory in case of working with an open door,
- Phone the control-room of the airline company in case of isolated workplace.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-19 — LAVATORY VEHICLE, POTABLE WATER VEHICLE

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Emptying waste water tanks. • Re-filling them with "blue" water. • Filling tanks with drinking water.	• An employee and a vehicle for emptying the toilets. • An employee and a vehicle for drinking water supply.	• Positioning correctly the GSE to allow easy access from the work platform to the aircraft. • Connecting the hose. • Emptying or filling the aircraft tanks.	• Operate before embarking passengers, generally 15 minutes ahead.

RISKS

Risks exposure

Emptying waste water and supplying drinking water expose employees to risks generated by the other simultaneously occurring activities.

Generated risks

Hazards

- Biological effluents,
- Detergents, disinfectants.

Hazardous situations

- Moving around on a slippery ground, in particular by cold weather,
- Spreading chemicals or biological agents on the ground.

☞ **Consequences**: allergies, irritations, injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Maintenance of emptying and filling equipments,
- Operate away from the others (some aircrafts).

Instructions and training

- CACES (draft),
- Avoid spilling of liquid on the ground.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-20 — AIRCRAFT MAINTENANCE

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Carrying out first level repair and maintenance work on aircrafts.	• One or more employees. • A mobile lifting platform or maintenance steps	• Approaching, positioning and stopping the platform in order to easily reach the aircraft. • Lifting the maintenance platform.	• Departure time can be affected by the duration and the good fulfilment of maintenance works. • Aircraft maintenance works are almost exclusively performed in co-activity with others; on the other hand, others are quite scarcely in a co-activity situation with maintenance workers.

RISKS

Risks exposure

Maintenance works on an aircraft during a turn-around expose employees to risks generated by other simultaneously occurring activities.

Hazardous situation

- Working on mobile parts presenting shearing-off or crushing zones.

Generated risks

Hazards

- Shearing-off zones in the lifting device,
- Overturn of the GSE under high wind.

Hazardous situations

- Work at height,
- Handling pieces at height,
- Overhead activities.

☞ **Consequences**: serious injuries and traumas that may lead to death.

PREVENTION MEASURES

Integrated or organizational measures

- Contact with the Air crew.

Collective measures

- Device forbidding access under the platform when elevated.

Instructions and training

- CACES,
- No standing at the aplomb of the platform.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2

SHEET 2-21 a

FUELLING WITH A TANKER

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Fuelling the aircraft. • Defuelling (scarcely).	• A driver in charge of fuelling, • A fuel truck with a tank and: ▪ *A delivery hose-pipe*: flexible supply hose between the fuel truck and the tanks of the aircraft, ▪ *An equipotent link cable*.	• Positioning the fuel truck near or under the aircraft, according to the type of aircraft. • Connecting properly the flexible hose and cable according to the appropriate procedure. • During fuelling, controlling the manometers and the product. • Disconnecting properly flexible hose and cables according to the appropriate procedure.	• Some airline companies demand to give the green light for aircraft approach. • Fuelling may last more than one hour. • The work place is outside the vehicle or on the platform of the fuel truck.

RISKS

Risk exposure

Fuelling exposes the employees to risks generated by other simultaneously occurring activities.

Generated risks

Hazards

- Fuel in the flexible hose, around the vent outlets,
- Shearing-off zones in the lifting device,
- Flexible hoses on the ground.

Hazardous situations

- Working near a huge quantity of inflammable product,
- Working in an inflammable atmosphere,
- Moving around under the aircraft tank vent outlets able to eventually discharge fuel and gas,
- Moving around on a slippery ground because of fuel spreading.

☞ **Consequences**: serious burns that may lead to death, injuries and traumas, intoxications.

PREVENTION MEASURES

Integrated or organizational measures

- 3-meter fire safety area around the fuel truck, the engines and the wings including the aircraft vent outlets,
- Totally free space in front of the fuelling truck so that it can escape at any time,
- Equipotent link cable to balance the electrostatic charges between the aircraft and the servicing truck and to avoid sparks,
- Dead man's emergency stop device.

Collective measure

- Device forbidding access under the platform when elevated.

Instructions and training

- CACES (draft),
- Respect of the fire safety area,
- Driving on a flexible hose is strictly forbidden,
- Permanently ensuring that the vehicle can move forward in case of emergency,
- No reversing allowed,
- In case of an accidental disconnection of the equipotent link cable, **do not attempt a new connection** but inform the driver who is in charge of the fuelling,
- Smoking strictly forbidden,
- Switching off cellular phones and being careful not to drop any onto the ground,
- Manoeuvring the platform only by authorized and educated workers.

Measures to be taken in case of emergency

- Fire extinguishers on the fuelling truck and on the aircraft stand,
- Personal eye-rinsing device at disposal of anyone,
- Absorbent product to clear fuel that has been spread on the ground.

PLEASE, REFER ALSO TO SHEET 1-2

Hydrant hose-pipe on hydrant

SHEET 2-21 b — FUELLING WITH A HYDRANT DISPENSER

FINALITY IN THE JOB SENSE

- Fuelling the aircraft.

HUMAN AND MATERIAL MEANS

- A driver in charge of fuelling,
- A hydrant dispenser and:
  - *hydrant network*: underground distribution network for kerosene under pressure (8 to 10 bars),
  - *Hydrant: opening at ground level, connected to the hydrant network,*
  - *hydrant hose-pipe*: flexible hose between the hydrant and the servicing truck,
  - *delivery hose-pipe*: flexible hose between the servicing truck and the tanks of the aircraft,
  - *equipotent link cable*,
  - *emergency cable (red)*.

WORKING METHODS

- Positioning the servicing truck near or under the aircraft, according to the type of aircraft.
- Connecting properly the flexible hose and cables according to the appropriate procedure.
- During fuelling, controlling the manometers and the product.
- Disconnecting properly flexible hose and cables according to the appropriate procedure.

CONSTRAINTS *(in particular time-related constraints)*

- Some airline companies demand to give the green light for aircraft approach.
- Fuelling may last more than one hour.
- The work place is outside the vehicle or on the platform of the servicing truck.

RISKS

Risks exposure

Fuelling exposes the employees to risks generated by other simultaneously occurring activities.

Generated risks

Hazards

- Fuel in the flexible hose, around the vent outlets,
- Shearing-off zones in the lifting device,
- Flexible hoses on the ground.

Hazardous situations

- Working near a huge quantity of inflammable product,
- Working in an inflammable atmosphere,
- Moving around under the aircraft tank vent outlets able to eventually discharge fuel and gas,
- Moving around on a slippery ground because of fuel spreading.

☞ **Consequences**: serious burns that may lead to death, injuries and traumas, intoxications.

PREVENTION MEASURES

Integrated and organizational measures

- 3-meter fire safety area around the fuel truck, the engines and the wings including the aircraft vent outlets,
- Totally free space in front of the fuelling truck so that it can escape at any time,
- Equipotent link cable to balance the electrostatic charges between the aircraft and the servicing truck and to avoid sparks,
- Dead man's emergency stop device.

Collective measure

- Device forbidding access under the platform when elevated.

Instructions and training

- CACES (draft),
- Respect of the fire safety area,
- Driving on a flexible hose is strictly forbidden,
- Permanently ensuring that the vehicle can move forward in case of emergency,
- No reversing allowed,
- In case of an accidental disconnection of the equipotent link cable, **do not attempt a new connection** but inform the driver who is in charge of the fuelling,
- Warning flags on hydrant,
- Red emergency stop cable connected to hydrant and at disposal of anyone,
- Smoking strictly forbidden,
- Switching off cellular phones and being careful not to drop any onto the ground,
- Manoeuvring the platform only by authorized and educated workers.

Measures to be taken in case of emergency

- Hydrant network emergency stop device on lighting pylons and on the structure of the passenger boarding bridges,
- Emergency stop cable,
- Fire extinguishers on the servicing truck and on the aircraft stand,
- Personal eye-rinsing device at disposal of anyone,
- Absorbent product to clear fuel that has been spread on the ground.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-22 — DE-ICING/ANTI-ICING THE AIRCRAFT ON ITS STAND

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Spraying the aircraft with a product preventing ice development on wings and rudder units. DO NOT MIX UP DE-ICING OPERATIONS PERFORMED AT THE ENTRANCE OF THE RUNWAY JUST BEFORE TAKE-OFF.	• 3 employees, • A fuel tank truck equipped with a lifting platform or a cabin, • A greasy anti-icing product.	• Spraying a greasy anti-icing fluid with a jet pipe. • The anti-icing product is generally applied on aircraft at night between midnight and 3 a.m. but also during the day when aircrafts remain at their parking stand.	• Work often carried out at night and always in cold weather (temperature below 0°C). • The time limit between the anti-icing procedure and the departure of the aircraft must not exceed 8 hours.

RISKS

Risks exposure

Anti-icing operations do not occur in co-activity normally. Employees are exposed to hazards linked to their own working environment.

Generated risks

Hazards

- Shearing-off zones in the lifting device,
- Overturn of the GSE under high wind.

Hazardous situations

- Moving around within an atmosphere with noxious aerosols,
- Moving around on a slippery ground (liquid is seeping down during a long time after the operation),
- Work at height.

☞ **Consequences**: intoxications, injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Operation carried out apart from any other activity,
- Automatic control of the carrier's speed when the platform or the cabin is elevated.

Instructions and training

- CACES (draft),
- Permanent check of the operations by the 3rd person of the team,
- Do not operate if any other GSE is in contact with the aircraft or if any operation is being performed outside the aircraft.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-23 — MOVING, STANDARD PUSHING BACK THE AIRCRAFT

FINALITY IN THE JOB SENSE

- Pushing the aircraft from its parking stand to the taxiway lane.

HUMAN AND MATERIAL MEANS

- Required staff (according to the airline company):
  - 1 in the GSE, 1 for handling the drawbar,
  - 1 for radio contact with the Flight crew,
  - 2 to visualize the tip of the wings.
- A push-back tractor,
- Eventually a tow bar.

WORKING METHODS

- Placing the GSE facing the nose landing gear of the aircraft.
- Lifting and loading the nose landing gear of the aircraft on the GSE,

  or
- Installing the tow bar between the GSE and the nose landing gear of the aircraft.
- Communication with the Flight crew through a wire-micro and ear-phone connected to the aircraft.
- Moving the convoy.

CONSTRAINTS *(in particular time-related constraints)*

- Presence of the GSE 10 to 20 minutes before the scheduled departure time.
- It is important to take into account the horizontal efforts brittleness of the nose landing gear of the aircraft.

RISKS

Risk exposure

Pushing back the aircraft exposes employees to risks generated by other simultaneously occurring risks.

Hazard

- Lightning (employee in wire contact with the Air crew).

Generated risks

Hazards

- Huge inertia of the convoy "*GSE + aircraft*",
- The tow bar and the nose landing gear of the aircraft undergo strong repeated strains.

Hazardous situations

- Working near another aircraft having a turn-around,
- Other aircrafts moving in the area,
- Misunderstood guiding gestures,
- Moving around near the wire connecting the ground employee to the Flight crew.

☞ **Consequences**: serious injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Full evacuation of the parking area before pushing back the aircraft,
- Material appropriate to the aircraft,
- Coordination with the Air crew,
- Coordination with the airport authorities,
- First priority over other vehicles and GSE.

Collective measure

- Mechanical fuses in the nose landing gear connection.

Instructions and training

- CACES (draft),
- First priority over other vehicles and GSE,
- Warning light and audible alarm in case of dysfunction in the coupling,
- No aircraft push back if somebody is standing less than 3 metres away from the nose landing gear or of the GSE.

Measure to be taken in case of emergency

- Emergency stop device.

PLEASE, REFER ALSO TO SHEET 1-2


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SHEET 2-24 — PUSHING BACK THE AIRCRAFT WITH A REMOTE-CONTROLLED TRACTOR

FINALITY IN THE JOB SENSE	HUMAN AND MATERIAL MEANS	WORKING METHODS	CONSTRAINTS *(in particular time-related constraints)*
• Pushing the aircraft from its parking stand to the taxiway lane.	• An employee in radio-contact with the Flight crew, • A remote-controlled GSE.	• Placing the GSE around the main landing gear of the aircraft. • Communication with the Flight crew through a wire-micro and ear-phone connected to the aircraft. • Moving the convoy. • The aircraft movement is trimmed by the rotation of the nose landing gear.	• Presence of the GSE 10 to 20 minutes before the scheduled departure time. • The employee in charge of push- back works in a noisy environment; he is concentrated on his work then not very receptive to additional demands.

RISKS

Risk exposure

Pushing back the aircraft exposes the employees to risks generated by other simultaneously occurring activities.

Hazard

- Lightning (employee in wire contact with the Air crew).

Generated risks

Hazard

- Huge inertia of the convoy "*GSE + aircraft*".

Hazardous situations

- Working near another aircraft having a turn-around,
- Other aircrafts moving in the area,
- Misunderstood guiding gesture,
- Moving around near the wire connecting the ground employee to the Flight crew.

☞ **Consequences**: serious injuries and traumas.

PREVENTION MEASURES

Integrated or organizational measures

- Full evacuation of the parking area before pushing back the aircraft,
- Material appropriate to the aircraft,
- Coordination with the Air crew,
- Coordination with the airport authorities,
- First priority over other vehicles and GSE,
- GSE driving tied down to the presence of an operator on the seat.

Collective measure

- Secured radio intercommunication of the remote-control.

Instructions and training

- CACES (draft),
- First priority over other vehicles and GSE,
- Warning light and audible alarm in case of dysfunction,
- No aircraft push back if somebody is standing less than 3 metres away from the nose landing gear or from the GSE.

Measures to be taken in case of emergency

- Emergency stop device,
- Self-controlled fire extinguishers.

PLEASE, REFER ALSO TO SHEET 1-2

PRACTICAL USE OF THESE SHEETS

The sheets presented **PREVIOUSLY** are aimed at helping the various employers to:

- ▲ Identify co-activity-related risks,
- ▲ Jointly specify prevention measures to be achieved,
- ▲ Complete their risk assessment in the "*document unique*",
- ▲ Prepare the "*plans de prévention*".

ANALYSIS WORK CAN BE CONDUCTED ACCORDING TO THE 4 STEPS THAT ARE DESCRIBED BELOW:

"IDENTIFYING THE ACTIVITIES OCCURRING SIMULTANEOUSLY TO THE ACTIVITIES OF MY COMPANY"

- ✔ See table "***CROSS ACTIVITY SITUATIONS***" ***(PAGE 74).***
- ✔ List activities being carried out simultaneously to the activity.
- ✔ Classify them according to the frequency of occurrence.

"BEING AWARE OF RISKS GENERATED BY THE OTHER ACTIVITIES; BEING AWARE OF SAFETY MEASURES"

- ✔ Read and have a thorough knowledge of each sheet.

"SPECIFYING PREVENTION MEASURES"

- ✔ Gather all prevention measures mentioned in each sheet.
- ✔ Identify the measures:
  - that are specific to my company,
  - that are relevant from the airport manager, from the airline company and/or from other companies,
  - that have to be implemented jointly with the other enterprises.

"ACTING IN CONCERT TO IMPLEMENT THE SAFETY MEASURES"

CROSS ACTIVITY SITUATIONS

The pedestrian (1-1)	3	2	3	1	2	2	1	1	2	1	2	3	3	3	3	3	3	3	3	3	2	3	3	3	1	3
The vehicle (1-2)	2	3	3	3	2	2	1	2	2	2	3	3	3	3	3	3	3	3	3	2	3	3	3	1	3
The aircraft (1-3)	3	3	3	3	3	3	3	1	3	1	3	3	0	0	1	1	3	3	3	3	3	3	3	3	3
The aircraft parking area, ASA (1-4)	3	3	3	3	3	1	1	1	3	3	2	3	3	1	2	1	1	3	3	3	3	3	3	3	3
Placing the aircraft (2-1)	3	3	3	3	2	1	0	2	2	2	1	0	0	0	1	0	1	0	1	0	0	1
Chocking and protection of the aircraft (2-2)	3	0	3	3	1	0	2	2	2	1	0	0	0	0	0	0	0	1	0	0	3
GPU, ACU, ASU (2-3)	0	3	2	0	0	1	1	1	0	1	1	1	1	1	0	1	1	1	1	3
Flight crew and Cabin crew (2-4a and 2-4b)	3	3	1	3	1	0	0	1	0	0	0	3	3	3	1	1	1	1	1
Passenger boarding bridge (2-5)	0	0	2	0	0	0	1	0	0	0	1	1	1	0	1	0	0	2
Passenger stairs (2-6)	1	1	1	1	1	1	0	0	0	1	1	3	1	1	1	0	2
Transporting passengers (2-7)	1	0	0	0	1	0	0	0	1	1	1	0	1	1	0	0
Assisting disabled/incapacitated passengers (2-8)	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Tractor and carts (2-9)	3	3	3	3	3	3	3	3	1	2	2	3	1	0
Conveyor belt loader (2-10)	3	3	2	2	3	3	3	1	2	2	2	1	0
Loader (2-11)	2	3	3	2	3	2	1	2	2	2	1	0
Luggage for a short time connection (2-12)	1	1	1	2	2	1	1	1	1	1	0
TrT (2-13)	2	2	1	1	0	1	1	1	1	0
Fret truck (2-14)	2	2	2	0	2	1	1	1	0
Forklift truck (2-15)	1	1	1	1	1	2	1	0
Catering (2-16)	2	3	2	2	2	1	0
Cabin servicing (2-17)	2	1	2	2	1	0
Cabin cleaning (2-17)	1	1	1	1	0
Lavatory potable water vehicle (2-19)	1	2	1	1
Aircraft maintenance (2-20)	2	1	1
Refuelling (2-21a and 2-21b)	1	0
De-icing, Anti-icing (2-22)	1
Moving, pushing back the aircraft (2-23 and 2-24)	

Proposed quotation

- **0** No co-activity at all
- **1** Possible co-activity
- **2** Frequent co-activity
- **3** Systematic co-activity

At the intersection of the line "Loader" and the column "Catering" the number 3 is appearing. This means that both activities work systematically and simultaneously in a restricted space.

At the intersection of the line "Passenger boarding bridge" and of the column "Loader" the number 0 is appearing. This means that both activities are never in a co-activity situation.

FREQUENT OCCURRING CO-ACTIVITY SITUATIONS

STEP 1

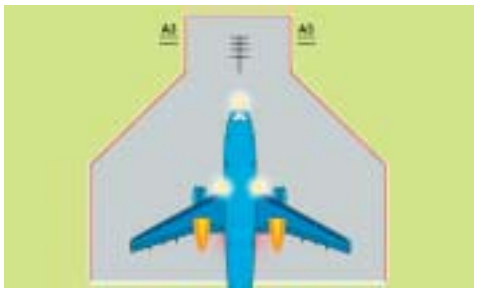
THE CO-ACTIVITY SITUATIONS DESCRIBED HERE BELOW HAVE BEEN SELECTED ON THEIR FREQUENCY OF OCCURRENCE.

STEP 2

	INVOLVED ACTORS	N° SHEETS
	OPERATIONS TO BE PERFORMED AT THE ARRIVAL OF AN AIRCRAFT	
	The pedestrian	1-1
	The aircraft	1-3
	The aircraft parking area, the ASA	1-4
	Placing the aircraft, chocking and protection of the aircraft	2-1 and 2-2
	OPERATIONS TO BE CARRIED OUT DURING THE TURN AROUND	
FRONT OF THE AIRCRAFT	The pedestrian	1-1
	The vehicle or the self-propelled GSE	1-2
	The aircraft	1-3
	The aircraft parking area, the ASA	1-4
	GPU, ACU, ASU	2-3
	Push-tractor	2-23
FRONT RIGHT HAND SIDE OF THE AIRCRAFT	The pedestrian	1-1
	The vehicle or the self-propelled GSE	1-2
	The aircraft	1-3
	The aircraft parking area, the ASA	1-4
	Transferring luggage and fret with a tractor and carts	2-9
	Loading and unloading with a conveyor belt loader	2-10
	Loading and unloading with a loader	2-11
	Transferring pallets/containers with a Transfer Transporter (TrT)	2-13
	Transferring fret with a truck	2-14
	Transferring loads with a forklift truck	2-15
	Catering and cabin servicing	2-16 and 2-17
	Fuelling with a hydrant dispenser	2-21b
FRONT LEFT HAND SIDE OF THE AIRCRAFT	The pedestrian	1-1
	The vehicle or the self-propelled GSE	1-2
	The aircraft	1-3
	The aircraft parking area, the ASA	1-4
	Flight crew and Cabin crew	2-4a and 2-4b
	Embarking/disembarking passengers with a boarding bridge	2-5
LEFT OF THE AIRCRAFT	The pedestrian	1-1
	The vehicle or the self-propelled GSE	1-2
	The aircraft	1-3
	The aircraft parking area, the ASA	1-4
	Flight crew and Cabin crew	2-4a and 2-4b
	Embarking/disembarking passengers with passenger stairs	2-6
	Transporting passengers	2-7
	Assisting disabled/incapacitated passengers	2-8
	Cabin cleaning	2-18
	Lavatory vehicle, potable water vehicle	2-19
	Fuelling with a tanker or with a hydrant dispenser	2-21a or 2-21b

OPERATIONS TO BE CARRIED OUT AT THE ARRIVAL OF AN AIRCRAFT

Prevention measures



This document has been elaborated from prevention measures appearing on each sheet presenting different actors involved in co-activity situations, that is to say: common sheets (1-1, 1-3 and 1-4) as also the sheets regarding the placing of the aircraft (2-1) and the chocking and protection of the aircraft (2-2). Redundant expressions have been then deleted.

Integrated or organizational measures

- Restricting the number of persons involved in the activity,
- The aircraft has right of way over pedestrians, GSE and vehicles as soon as the anti-collision lights are on,
- The approach of the aircraft is possible when:
  - engines have been cut off and propellers have completely stopped,
  - the aircraft has been blocked,
  - anti-collision lights have been switched off,
  - the signalman has given authorization, rising the right arm, thumb up,
- The aircraft doors can only be opened when a platform has been placed at corresponding appropriate height,
- Weather forecast alert and interruption of ground handling operations,
- Specific areas dedicated to some operations for example anti-icing/de-icing,
- Roads in good condition, without any discontinuity, with appropriate slope form,
- Regular cleaning of areas,
- Snow removal and defrosting of areas, with clearly identified snow storage areas,
- Clearly identified and sufficiently numerous parking areas,
- Top priority must be given to the signalman over the moving vehicles and the GSE,
- The parking area must be sufficiently opened so that the signalman can be seen by the pilot.
- Chocking up is carried out under the signalman's responsibility,
- The signalman has the authority of decking the aircraft.

Collective measures

- Physical separation between pedestrians and vehicles,
- Closed, near at hand and numerous FOD refuse-bins,
- Identified specific storage spaces (for chocks for example),
- Blast fences,
- Racks equipped with container holders,
- Sufficient but non dazzling lighting.

Personal Protection Equipment (PPE)

- High-visibility jackets,
- Safety shoes,
- Ear protectors.

Instructions and training

- Training to co-activity,
- Training to the use of fire extinguishers (especially those used on aprons),
- Respect of pedestrian lanes, pedestrian walkways,
- Respect of instructions related to the approach of the aircraft,
- Respect of non-smoking areas and of restricted use of cellular phones,
- Coordination with the air crew,
- Awareness and respect of the IATA rules related to ground handling of an aircraft,
- Respect of instructions regarding access and parking close to aircraft,
- Cleaning and tidiness of the areas,
- Ground-marking delimiting the various areas and the different traffic ways,
- Clear and easily readable ground-marking especially dedicated to the placing of the aircraft,
- Pedestrian walkways,
- Vertical and horizontal marking,
- Checking that the parking stand is in conformity (cleanliness, safety),
- Parking vehicles outside the ASA,
- Staying in a traffic-free area; if impossible, traffic must be interrupted,
- Respect of chocking procedures, according to the company and aircraft type,
- Admission of the others in the ASA after:
  - the propellers have completely stopped,
  - the anti-collision lights are switched-off,
  - signalman's authorization,
- Knowledge of the appropriate aircraft guiding gestures.

Measures to be taken in case of emergency

- First aid workers,
- Fire extinguishers,
- Emergency stops specifically dedicated to the fire hydrant network,
- Telephone to contact emergency services,
- Absorbent product (for liquids),
- Removal of spilt products on the ground.

THE DIFFERENT SAFETY MEASURES LISTED HERE ABOVE ARE MEANT TO BE JOINTLY ANALYSED BY ALL THE ACTORS INVOLVED IN THE "OPERATIONS TO BE CARRIED OUT AT THE ARRIVAL OF AN AIRCRAFT".

IT MUST BE CHECKED THAT ALL SAFETY MEASURES ARE DULY APPLIED OR, IN DEFAULT, AN ACTION PLAN MUST BE RAISED UP IN ORDER TO ACHIEVE THEM.

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Statutory references

- Evaluation of occupational risks (Law of December 31, 1991)
- *Plan de prévention* (Order of February 20, 1992)
- *Document unique* (Order of November 5, 2001)
- Local regulation of each apron.

IATA Publication

- Airport Handling Manual (AHM)

ACI Publication

- Apron Safety Handbook

INRS Publications

ED 5018	Occupational Risk Assessment
ED 886	Occupational Risk Assessment. Principles and Practices
ED 887	Occupational Risk Assessment. Questions-Answers on the *Document unique*.
ED 936	About Occupational Safety and Health Management
ED 941	Intervention of Outdoor Companies

CRAMIF Publication

DTE 167	Guide for the assessment of occupational risks and of the Action Plan for Prevention. A teaching aid for the *Document unique* and Action Plan.

European standards and drafts; AHM Specifications dealing with GSE

Standards and Standard Draft References	Ground Support Equipments	AHM Specifications
EN 1915 – 1	Aircraft ground support equipment – General requirements- Part 1: Basic safety requirements	AHM 910, 913, 916 and 918
EN 1915 – 2	Aircraft ground support equipment – General requirements- Part 2: Stability and strength requirements, calculations and test methods	
EN 1915 – 3	Aircraft ground support equipment – General requirements- Part 3: Vibration measurement methods and reduction	
EN 1915 – 4	Aircraft ground support equipment – General requirements- Part 4: Noise measurement methods and reduction	

European standards and drafts; AHM Specifications dealing with GSE

Standards and Standard Draft References	Ground Support Equipments	AHM Specifications
EN 12312 – 1	Passenger stairs	AHM 920/A
EN 12312 – 2	Catering vehicles	AHM 911 and 926
EN 12312 – 3	Conveyor belt vehicles	AHM 925
EN 12312 – 4	Passenger boarding bridges	AHM 922
prEN 12312 – 5	Aircraft fuelling equipment	
EN 12312 – 6	De-icer and de-icing/anti-icing equipment	AHM 975 and 977
prEN 12312 – 7	Aircraft movement equipment	AHM 955 to 958
prEN 12312 – 8	Maintenance stairs and platforms	
prEN 12312 – 9	Container/pallet loaders	AHM 911, 931, 932, 934 and 939
prEN 12312 – 10	Container/pallet transfer transporters	AHM 911 and 969
prEN 12312 – 11	Container/pallet dollies and loose load trailers	AHM 911, 913, 916, 963, 965, 966 and 967
prEN 12312 – 12	Potable water service equipment	AHM 970
EN 12312 – 13	Lavatory service equipment	AHM 971 and 978
prEN 12312 – 14	Disabled/incapacitated passenger boarding equipment	AHM 176/A and 921
prEN 12312 – 15	Baggage and equipment tractors	AHM 916 and 968
prEN 12312 – 16	Air start equipment	AHM 976
prEN 12312 – 17	Air conditioning equipment	AHM 973 and 974
prEN 12312 – 18	Nitrogen or oxygen units	
prEN 12312 – 19	Aircraft jacks, axle jacks and hydraulic tail stanchions	AHM 938
prEN 12312 – 20	Ground power equipment	AHM 972
EN 1726 – 1	Safety of industrial trucks – Self-propelled trucks up to and including 10 000 kg capacity and industrial tractors with a drawbar pull up to and including 20 000 N – Part 1: General requirements	AHM 991
EN 1726 – 1/A1	Safety of industrial trucks – Self-propelled trucks up to and including 10 000 kg capacity and industrial tractors with a drawbar pull up to and including 20 000 N – Part 1: General requirements – Amendment 1: Operator restraint systems – Specification and test procedure	AHM 991

	Standardization of locations for aircraft ground service connections	ARP 4084
	Aircraft doors, servicing points and system requirements for the use of ground support equipment	AHM 904

GLOSSARY

ACI ⇨ Airports Council International

ACU ⇨ Air conditioning Unit

AHM ⇨ Airport Handling Manual

APU ⇨ Auxiliary Power Unit

ARP ⇨ Aerospace Recommended Practice SAE

ASA ⇨ Aircraft Safety Area (ZEC in French)

ASU ⇨ Air Starter Unit

CACES ⇨ *Certificat d'Aptitude à la Conduite en Sécurité* (certificate of ability to drive safely). The CACES are issued from recommendations of the *Sécurité Sociale*. The French goverment has recognized that they are a proper means to fulfil statutory requirements for driving equipments.

CRAMIF ⇨ *Caisse Régionale d'Assurance Maladie d'Ile-de-France* (regional body of the *Sécurité Sociale*)

Document unique ⇨ A statutory compulsory document; each employer has to write the risk assessment of the company and list the prevention measures.

GSE ⇨ Ground Support Equipment

GPU ⇨ Ground Power Unit

IATA ⇨ International Air Transport Association

INRS ⇨ *Institut National de Recherche et de Sécurité* (research institute of the *Sécurité Sociale*)

ISO ⇨ International Organization for Standardization

Plan de prévention ⇨ The airline company has to coordinate the ground handling operations. The corresponding safety measures must be jointly decided and listed in a document: the *plan de prévention*.

PPE ⇨ Personal Protection Equipment (*EPI* in French)

SAE ⇨ Society of Automotive Engineers

TrT ⇨ Transfer Transporter

ULD ⇨ Unit Load Device

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Dépôt légal : 3e trimestre 2005

Conception : CRAMIF et Association Charte de Sécurité CDG
Traduction : CRAMIF et Aéroport de Lyon - Photos
Maquette : Chaîne Graphique CRAMIF- Impression : Imprimerie TECDIM

Réf : DTE 196E
ACS 01E