Network Manager
nominated by
the European Commission

EUROCONTROL

# Ground Handling Operational Procedures - the Human Factor

Barry Kirwan

# Reality on the ground today…

- Ground handling incidents
  - Frequent (1 in 5000 flights)
  - Costly (costing billions globally)
  - Delays
  - Injuries & fatalities
  - Risk to aircraft in flight
- What is the best approach to ‘turn around’ this situation?
  - More procedures?
  - Fire and hire new staff?
  - Re-train?
  - New equipment?

# How do we react when an incident happens?

## Blame the individual

- Punish them. They won't do it again (but someone else will).
- Fire them. (No one will report anything unless they have to).

## Learn from the event

- ✓ Find out why it happened. Hear them out. Share the information.
- ✓ Trust your staff. Have a dedicated, professional workforce
- ✓ Be firm on any reckless behaviour

# Some of the Human Factors in Ground Handling

- Low-paid staff
- High staff turnover
- Manual handling in all-weather
- Communications difficulties
- Minimal training
- Many variations on the same procedure (e.g. 20 ways to chock an aircraft)
- Distractions
- Alertness
- Fatigue
- On-time-performance pressure
- Highly competitive sector in aviation
- Team-working, multi-cultural teams
- Just Culture, cultural norms
- Physical fitness

# What if we did ground handling differently?

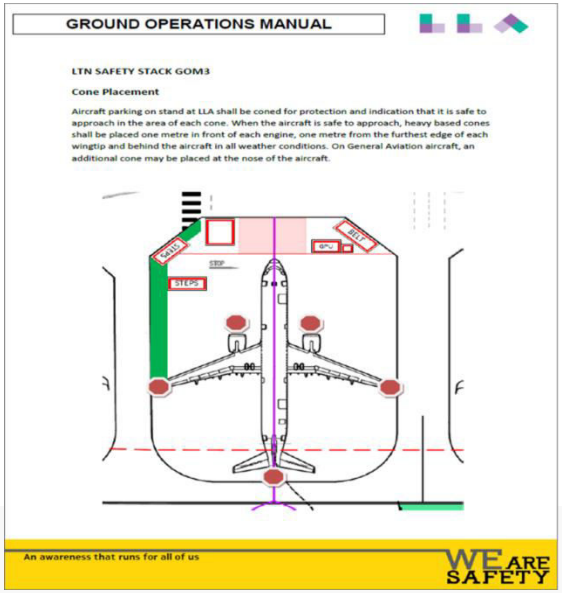
## What if we engage more with our staff?

# More procedures? Well, yes and no…

- Someone sits in an office and imagines how the job should be done…
- Each time there's an incident, they add a bit more to the procedure…
- The procedure writer is unaware of the average reading age of the worker…

# An alternative vision

- People who do the work are consulted
- Procedures use diagrams and simple language
- Procedures are harmonised across ground handling companies and airlines
- Safety-related events are shared across organisations
- Such events are discussed by organisations, and collective decisions made on procedures
- People talk to each other…


GROUND OPERATIONS MANUAL

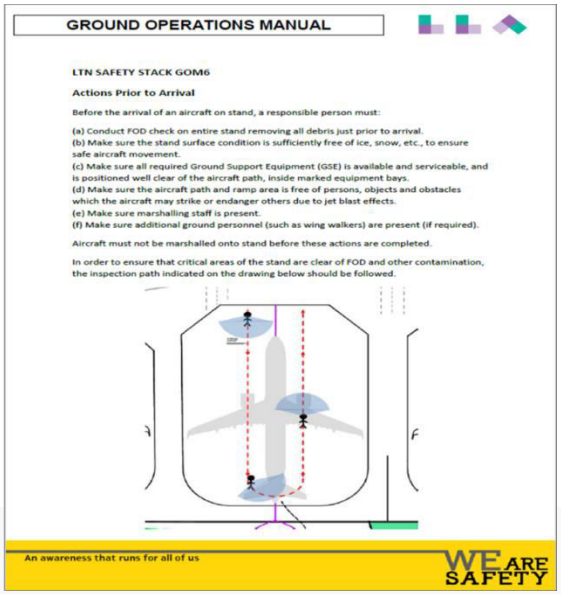
LTN SAFETY STACK GOM3

Cone Placement

Aircraft parking on stand at LLA shall be coned for protection and indication that it is safe to approach in the area of each cone. When the aircraft is safe to approach, heavy based cones shall be placed one metre in front of each engine, one metre from the furthest edge of each wingtip and behind the aircraft in all weather conditions. On General Aviation aircraft, an additional cone may be placed at the nose of the aircraft.

An awareness that runs for all of us

WE ARE SAFETY


GROUND OPERATIONS MANUAL

LTN SAFETY STACK GOM6

Actions Prior to Arrival

Before the arrival of an aircraft on stand, a responsible person must:

(a) Conduct FOD check on entire stand removing all debris just prior to arrival.
(b) Make sure the stand surface condition is sufficiently free of ice, snow, etc., to ensure safe aircraft movement.
(c) Make sure all required Ground Support Equipment (GSE) is available and serviceable, and is positioned well clear of the aircraft path, inside marked equipment bays.
(d) Make sure the aircraft path and ramp area is free of persons, objects and obstacles which the aircraft may strike or endanger others due to jet blast effects.
(e) Make sure marshalling staff is present.
(f) Make sure additional ground personnel (such as wing walkers) are present (if required).

Aircraft must not be marshalled onto stand before these actions are completed.

In order to ensure that critical areas of the stand are clear of FOD and other contamination, the inspection path indicated on the drawing below should be followed.

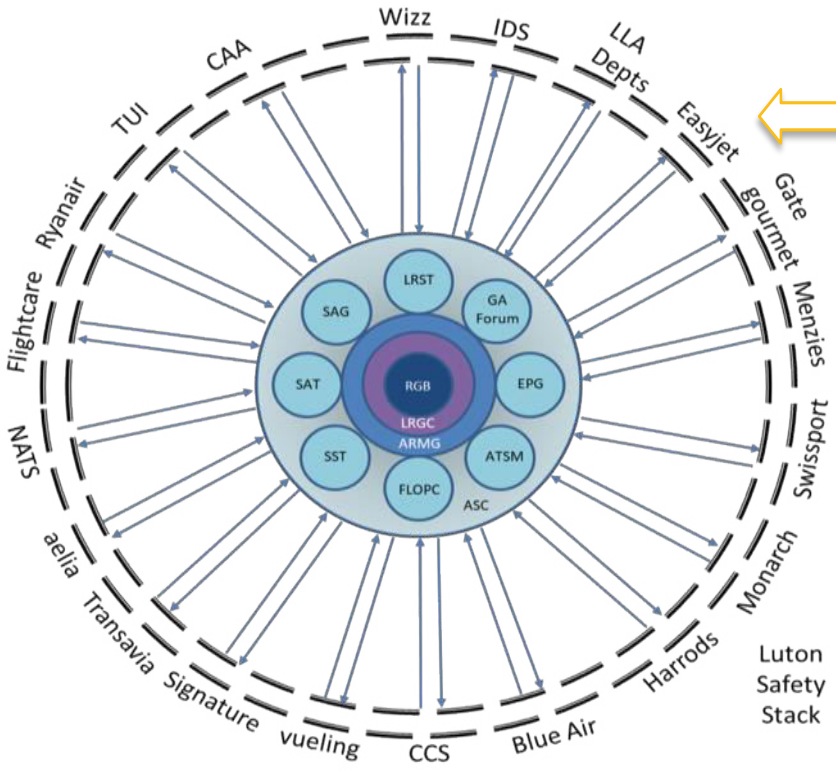
An awareness that runs for all of us

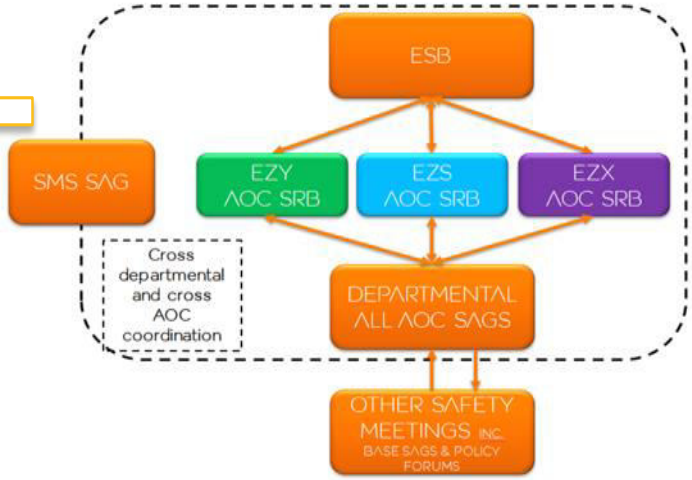
WE ARE SAFETY

# The safety communication super-highway

generation easyJet

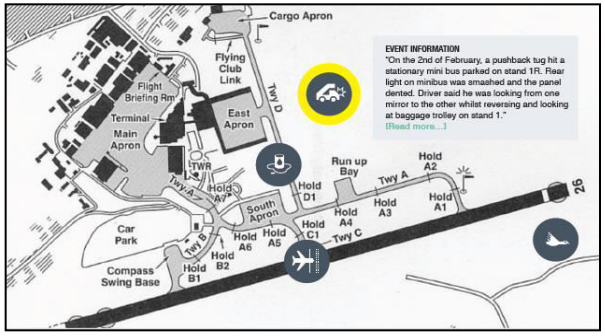
## What we are doing together – Safety Intelligence



# Walking the talk… the ‘LTN Stack’ at Luton Airport

- 28 procedures standardised across the airport
- ‘*There may be 50 ways to leave your lover, but at LTN there is only one way to chock an A320*.’
- In first 6 months, 100% reduction in ground-handling incidents, against a 5% increase in traffic & 7% increase in productivity
- Reporting up 50%, unreported events down 57%, safety survey participation up 900%, hold-point busts down 60%
- Smaller companies feel empowered to raise issues with the larger stakeholders
- Individual staff feel valued & have pride in their job
- Ground handling companies are talking to each other directly, working collectively on safety.





# Current GOMs at LTN

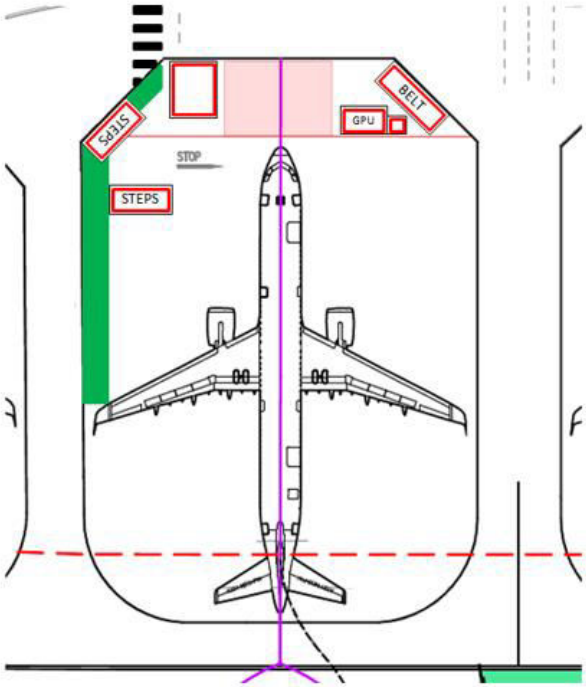
| | | | |
|---|---|---|---|
| Equipment Restraint Area | Fuel Spillage | Aircraft Loading | Personal Electronic Devices and Radios |
| Foreign Object Debris | Refuelling/Defuelling with Passengers on Board | Pre-Departure Check | Fuelling |
| Cone Placement | Operating GSE on Aircraft Stands | Wheel Chock Removal | Height Safety Equipment |
| Aircraft Chocking | Non-Motorized GSE | Actions Prior to Departure | Adverse Weather: Thunderstorms |
| Hand Signals | Passenger Steps | Aircraft Towing | Adverse Weather: Strong Winds |
| Actions Prior to Arrival | Belt Loaders | Passenger Pathing | Adverse Weather: Low Visibility |
| Basic Operating Requirements for GSE | Actions After Arrival | Pushback & Start of Aircraft | Tug and Dolly Operations |
| Fuelling Safety Zones | Ground Power Units | Spot Person | Winter Operations |

**LTN SAFETY STACK GOM1**

**Equipment Restraint Area**

LLA uses marked equipment bays that conform to the EASA requirement for a 4.5 metre space to be maintained between manoeuvring aircraft and obstacles. The boundary of the equipment bays serves as an Equipment Restraint Area. No equipment shall be parked on stand whilst an aircraft manoeuvres other than inside the parking bays. All equipment is to be returned to its designated bay when not in use.

For General Aviation operations, the ERA is generally taken as the boundary of the footprint of the aircraft.




GROUND OPERATIONS MANUAL

**Why is this important?**

Keeping equipment clear of aircraft that are moving or have engines running is essential to safety.

Aircraft engines are powerful and the suction force in front can be enough to pull in even large and bulky pieces of equipment. Keeping everything – vehicles, people, and equipment – away from active engines is a major part of mitigation against this risk.


Aircraft need space to manoeuvre, and turning onto stand in order to park can be challenging. Remaining clear of this space is essential to minimise the risk of collision, costly damage to aircraft and ground service equipment, and reduce the risk of injury and delays.

Network Manager
nominated by
the European Commission

EUROCONTROL

# Investing in people is your best safety ROI

Increased reporting Increased productivity Reduction in incidents
Reduction in Lost Time Injuries Reduction in delays and revenue loss
Improvement your corporate reputation Improvement in industrial relations
Better picture of your risk exposure More agile, more resilient
Increased morale Less staff turnover Committed workforce

https://youtu.be/_f8gvPMZMLg

Network Manager
nominated by
the European Commission

EUROCONTROL

# Thanks for listening

barry.kirwan@eurocontrol.int
https://safeorg.eu/safety-stack/
liam.bolger@ltn.aero