



Interagency Aviation Lessons Learned



No. IALL 17-06

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Subject: Equipment Foul Lines and Foul Boxes at Airtanker Bases

Area of Concern: Ramp Operations

Distribution: Airtanker Bases

Discussion: Over the past several years the Airtanker fleet has grown to include larger, turbine jet aircraft. Although procedures have been implemented to mitigate the risk to personnel, Ground Support Equipment (GSE) and aircraft taxiing in the ramp area, aircraft and GSE are still being damaged. Fortunately, there have been no reported injuries...yet.

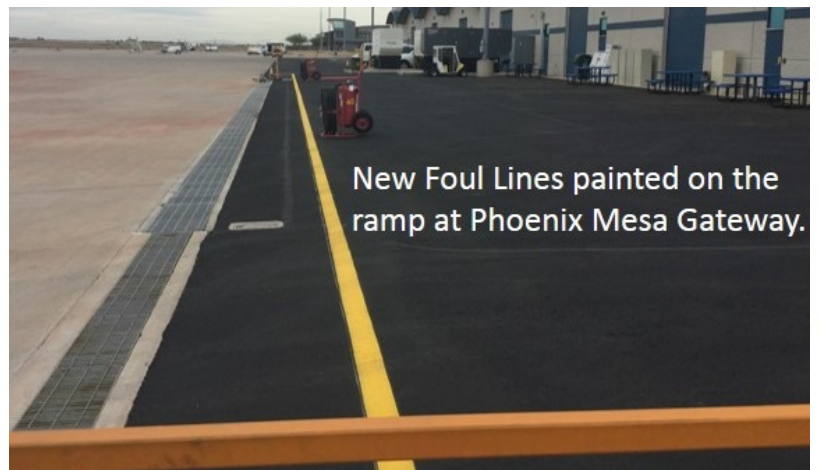
The additional GSE required to support these larger aircraft are often involved with these incidents. The most common types of GSE include Ground Power Units (GPUs), air conditioning carts (A/C carts), man lifts, airstairs etc., and are normally provided by a Fixed Base Operator (FBO) that are operated by contract employees. Some of this equipment is used for every flight and some is only used if the aircraft is shut down or supporting maintenance activities.

In order to mitigate this hazard, fixed wing bases should have non-movement and GSE placement areas designated on their ramps.

Non-movement areas are separated from the aircraft ramp or parking area by a “foul line.” Foul lines are painted on the asphalt or concrete. Temporary bases could utilize tape if paint is not an option however tape can become a FOD hazard if it becomes loose and ingested by an engine.

Foul Boxes or designated equipment placement areas should ensure adequate separation from both the aircraft and potential propeller or jet blast that could move GSE into another aircraft, other ramp area, or facility. The airport operator should evaluate the potential impact of jet blast on equipment, personnel, and vehicle traffic which may require a larger setback

Airtanker Base Managers, Fixed Wing Parking Tenders and Ramp Managers should receive a briefing from GSE operators on how the equipment is secured once parked inside the Foul Box or parked and secured on the safe side of the Foul Line. This will allow Government personnel, (i.e. Fixed Wing Parking Tender and Ramp Manager) to visually identify if the GSE equipment is properly parked and secured before an aircraft is cleared to start and/or taxi on the ramp.

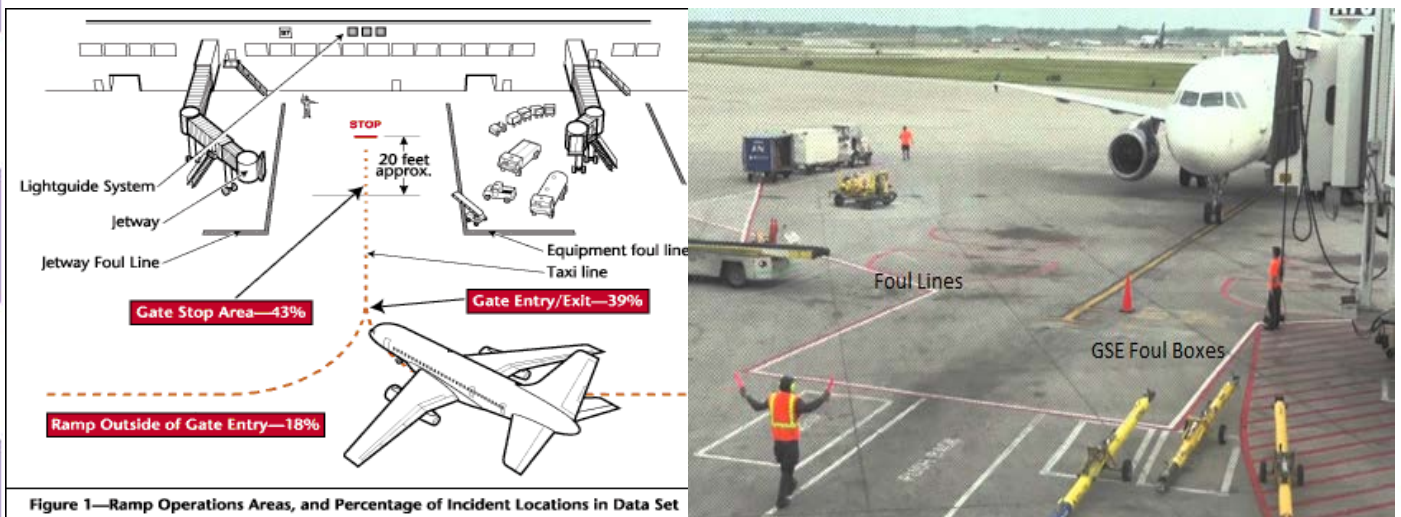


New Foul Lines painted on the ramp at Phoenix Mesa Gateway.

Standards for Airtanker Base Equipment Foul Lines/Boxes

- Foul Lines/Boxes will be located and painted in accordance with the local airport authorities' operating procedures or FAA Advisory Circular 150/5340 –1L. At CWN and Temporary bases, the lines may be marked with tape.
- A Foul Line will be placed no less than 10 feet (30 feet is preferred) away from where the closest aircraft wing tip will taxi. All GSE or equipment will be placed on the “safe” side of the line prior to releasing the aircraft for taxi.
- Foul Boxes will fully encompass the piece of equipment with a minimum of 18 inches of clearance on all four sides. They will be clearly labeled to identify the equipment that is to be parked in the space. **All foul boxes will be located in an area that will maintain a 30 foot separation from all aircraft while parked and while taxiing.**

Examples below of airline ramp markings for reference.



Managers should expect this safety measure to become mandatory some time in the near future. Please contact USFS Acting Ramp Operations Specialist William Cline at wrcline@fs.fed.us or 970-218- 1845 with any questions or comments

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