



BOEING ENGINEERS LOOK AT ALL ASPECTS OF AN AIRLINE'S RAMP PROCEDURES TO FIND OPPORTUNITIES TO IMPROVE SAFETY AND EFFICIENCY.

Improving Ramp/Terminal Operations for Shorter Turn-Times

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Efficient, dependable ramp operations not only directly affect passengers' satisfaction with an airline, but they also offer economic benefits, particularly for short-haul carriers (see preceding article, "Economic Impact of Airplane Turn-Times"). However, it can be difficult for airlines to achieve turn-time reductions if they don't fully understand the factors influencing airplane turnarounds. Boeing offers a service that analyzes turnarounds and provides recommendations to reduce turn-times and improve ramp safety.

Ramp/terminal operation engineers at Boeing are available to perform turn-time studies for airlines. This fee-based service is designed to increase operators' awareness of the latest and most successful ramp operations processes and procedures and to keep them up to date on developments in ramp and ground-support equipment (GSE).

This article provides an overview of these airplane turn-time studies, details the turn-time study process, and explains the benefits an operator can expect from a turn-time study.

TURN-TIME STUDY OVERVIEW

Boeing performs on-site ramp/terminal operational efficiency evaluations for its customers. These individual evaluations, or studies, are designed to:

- Help airlines benchmark their technical status in terms of ensuring their awareness of the latest and most successful ramp operation processes and procedures.
- Keep airlines current on developments in GSE.
- Identify areas of concern.
- Improve awareness of ramp safety.
- Recommend changes that can improve efficiency.
- Explore methods of implementing the recommended changes.

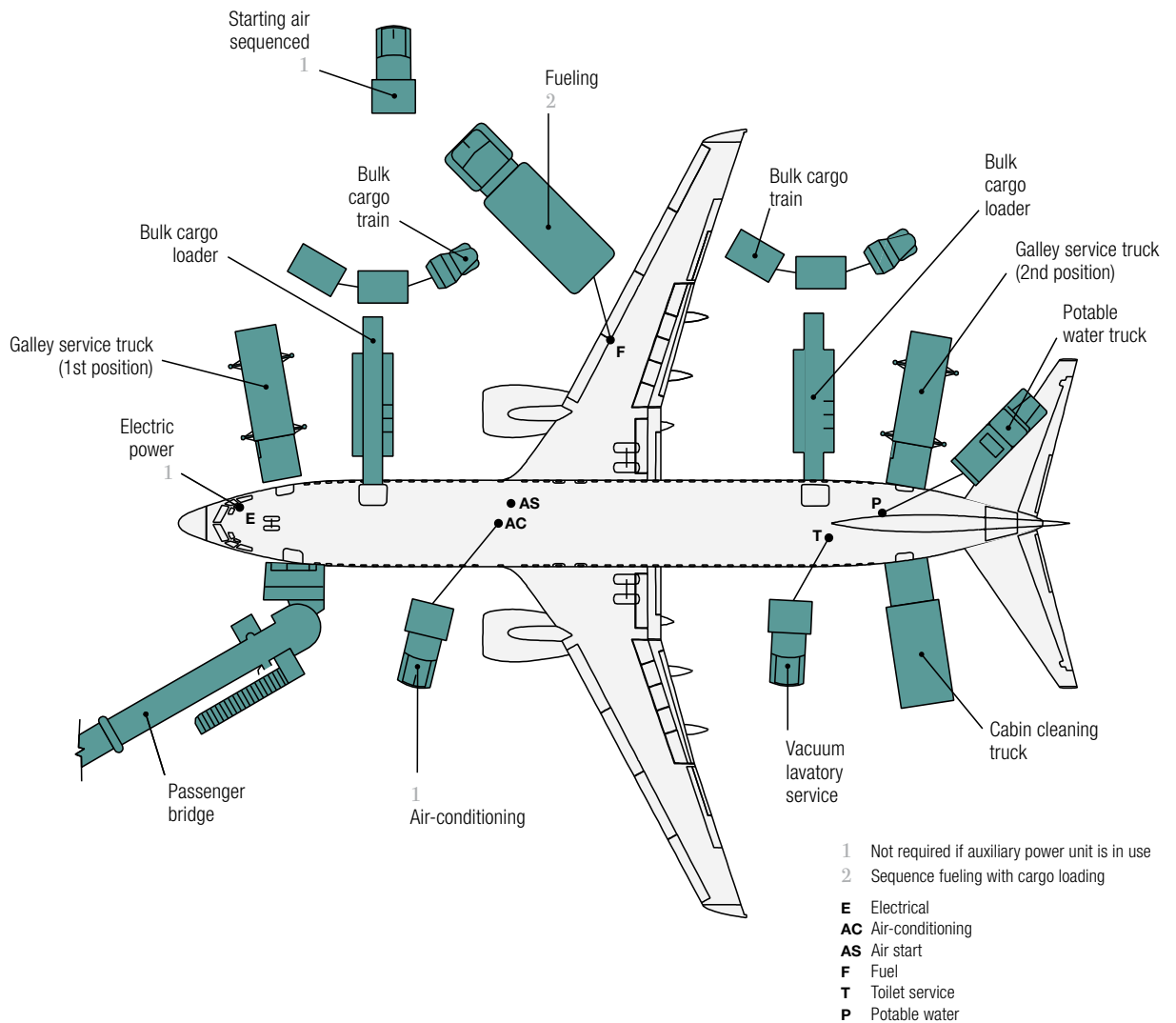
In performing an evaluation, Boeing engineers look at all aspects of an airline's ramp procedures to identify opportunities to improve safety and efficiency while attempting to eliminate the risk of damage to airplanes. The team assesses equipment, procedures, and the time required to turn an airplane. The goal is for the operator to achieve an efficient, economical, safe, and repeatable process.

Often, the solutions generated in an evaluation can be applied to other airplanes and other locations. Studies can be conducted for any airport and for all models of Boeing airplanes.

TYPICAL NEXT-GENERATION 737 TURN-TIME SERVICING ARRANGEMENT

Figure 1

A Boeing team analyzes an operator's ramp operations to help reduce average turn-times and increase airplane utilization.



TURN-TIME STUDY PROCESS

A turn-time study typically includes a review of the following areas, with the airline determining which activities may require special attention:

- Coordination and scheduling of labor.
- Line maintenance.
- Organizational structure.
- Outstation (as required).
- Quality assurance and control.
- Ramp safety.
- Ramp/terminal operations.
- Technical policies and procedures.
- Training.
- GSE.
- Ramp policies and procedures.
- Sequence of events.

A study begins with a visit by a Boeing team to an airline site and outstation to analyze detailed records on all aspects of the ramp operations

(see fig. 1). Using analytical methods and standards, the team then identifies inefficiencies and opportunities for improvement in the following areas:

- Cabin grooming.
- Cargo loading and unloading.
- Fueling.
- Galley servicing.
- Meal and beverage provisioning.
- Passenger boarding and deplaning.
- Potable water replenishment.
- Preflight check.

The team also conducts detailed interviews with all levels of management and other ramp and terminal operations personnel. Topics addressed include organization and job descriptions; employed policies and procedures; maintenance and overhaul capabilities; and GSE, safety, and performance measurement methods.

The Boeing team uses a variety of criteria during the study, including the International Air

Transportation Association's Airport Handling Manual, actual airline observations, Boeing-recommended practices and procedures, accepted industry standards, and knowledge of ramp handling operations and GSE requirements.

At the conclusion of a ramp/terminal operation analysis, the Boeing team verbally debriefs the airline's management on the significant findings. The airline also receives a written report approximately 30 days after the on-site evaluation. Reports typically range from 50 to 80 pages and provide detailed findings, observed and proposed timelines, and recommendations (see fig. 2). Airline findings are strictly treated as proprietary information and not shared with other airlines.

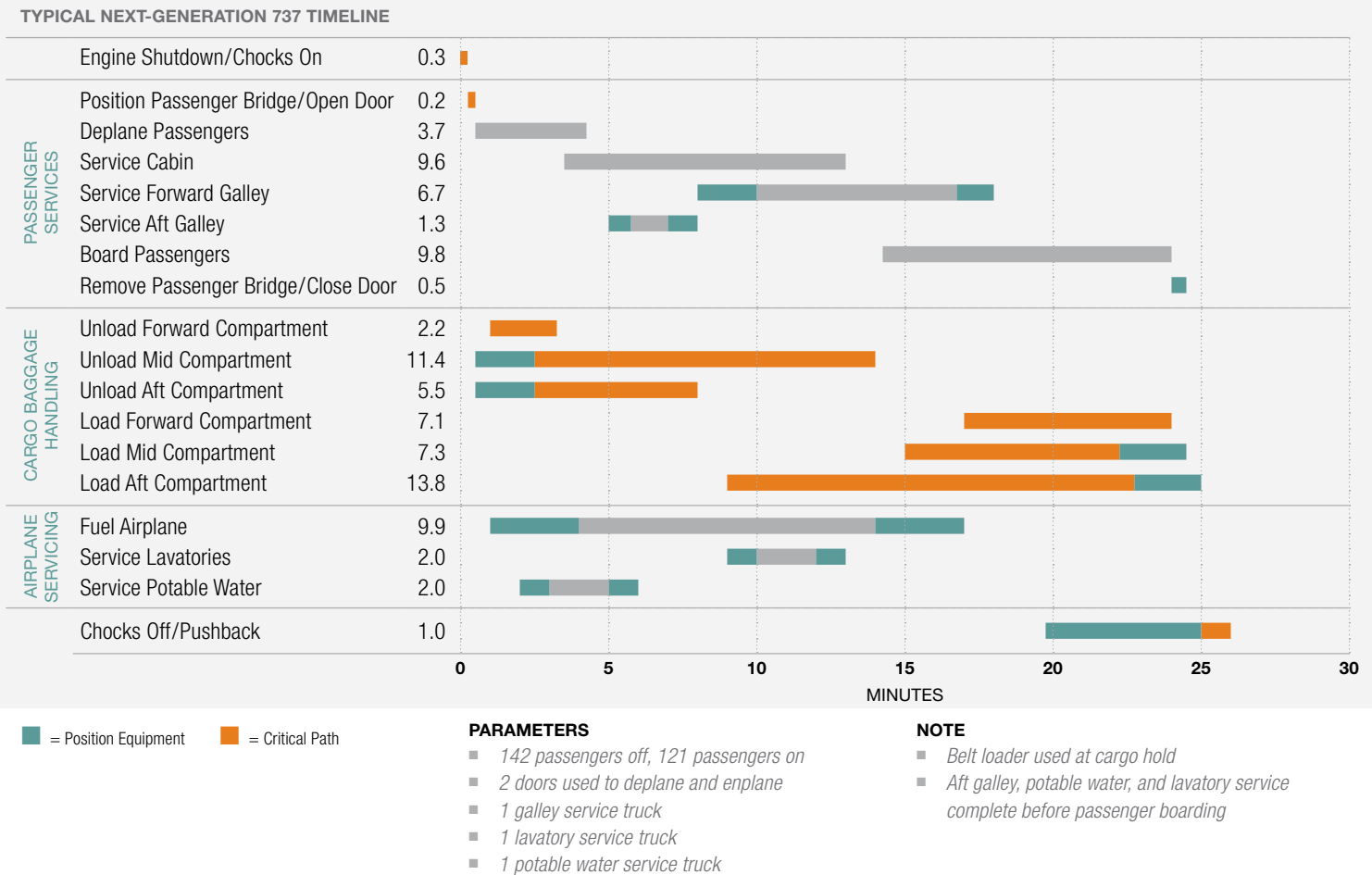
BENEFITS OF TURN-TIME STUDIES

Turn-time studies provide operators with detailed recommendations on how individual tasks can be

DETAILED RECOMMENDATIONS TO IMPROVE TURN-TIME EFFICIENCY

Figure 2

Each turn-time study includes a detailed written report with specific recommendations, such as this flow chart, on how an airline can improve turn-times.



improved and how multiple tasks can be coordinated to permit optimum ramp/terminal operations and improve airplane utilization. These studies enable airlines to compare their methods and performance to that of other operators, obtain an independent review of operations and processes, and identify problems and prioritize solutions. Airlines can realize a number of benefits from turn-time studies, including:

- Efficient, repeatable, and safe turnaround operation on the ramp and inside the airport terminal.
- Possibility of additional revenue and additional flights per day.
- Reduced “ramp rash” through safety awareness and recurrent training.
- Safer ramp/terminal infrastructure, equipment, and operations.
- Fuel savings through reduced auxiliary power unit usage.
- Reduced airplane scheduling conflicts on the ground and at the gates.

- Reduced gate time for airplanes during turnaround operations.
- Maximized gate usage during peak operational times.
- Improved passenger satisfaction.
- Proper use and availability of GSE.
- Better utilization of ramp personnel.
- Increased management awareness of ramp and terminal operations.

As outlined in the preceding article, “Economic Impact of Airplane Turn-Times,” airplane turn-time studies can also help an airline keep airplanes earning revenue during a greater portion of their duty cycle. The time recovered may even allow an additional flight at the end of the day. In one actual case, Boeing helped an airline increase its number of quick turns (a turn accomplished in 30 minutes or less in most stations) by 33 percent.

SUMMARY

A Boeing team is available on-site to assist operators in optimizing their airplane turn-times by using analytical methods and standards to improve individual tasks and coordinate multiple events on the ramp. Boeing can perform this fee-based turn-time analysis for all models of Boeing airplanes. These studies incorporate airline maintenance, airline policy, government regulatory requirements, and GSE availability. At the conclusion, Boeing will provide the operator with a detailed written report documenting the findings and recommendations as well as an implementation plan to reduce overall turn-times.

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