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Safety Standards Branch

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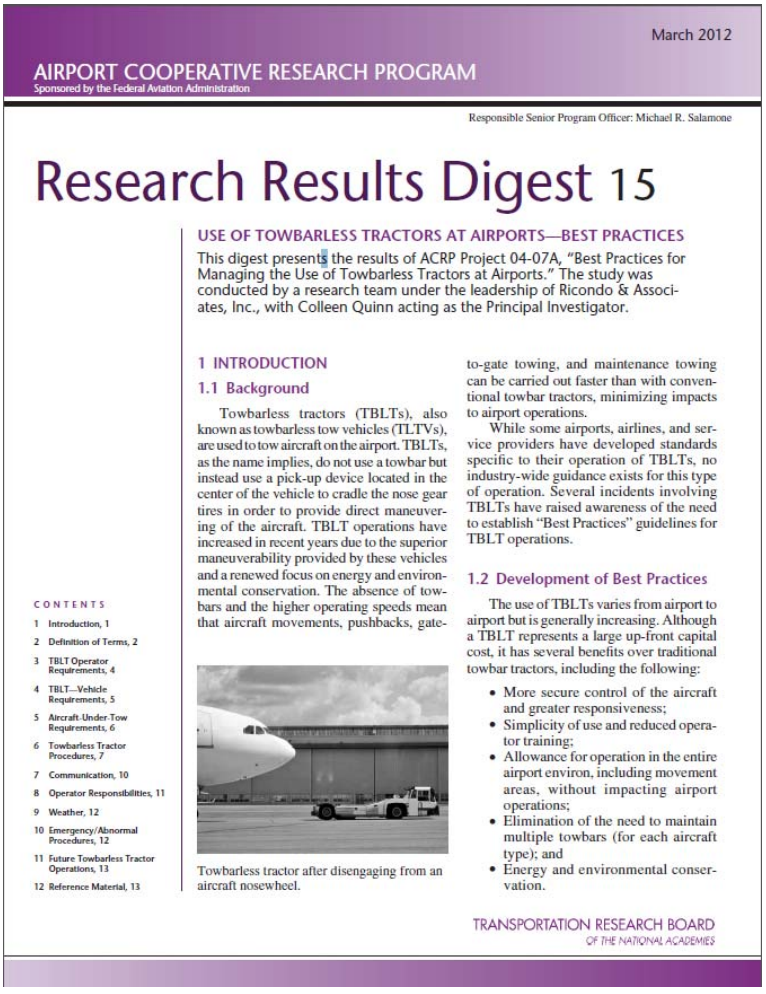
Subject: Best Practices for the Use of Towbarless Tractors at Airports

The Transportation Research Board's Airport Cooperative Research Program has published, "Research Results Digest 15." This digest includes broad guidance designed to help enhance the safe operation of towbarless tractors (TBLTs), also known as towbarless tow vehicles (TLTVs), at airports. The report is designed to assist airports and aircraft operators in gaining a basic understanding of the training and operational issues associated with TBLT operations.

ACRP Research Results Digest



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AIRPORT COOPERATIVE RESEARCH PROGRAM
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Research Results Digest 15

USE OF TOWBARLESS TRACTORS AT AIRPORTS—BEST PRACTICES

This digest presents the results of ACRP Project 04-07A, "Best Practices for Managing the Use of Towbarless Tractors at Airports." The study was conducted by a research team under the leadership of Ricondo & Associates, Inc., with Colleen Quinn acting as the Principal Investigator.

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1 INTRODUCTION

1.1 Background

Towbarless tractors (TBLTs), also known as towbarless tow vehicles (TLTVs), are used to tow aircraft on the airport. TBLTs, as the name implies, do not use a towbar but instead use a pick-up device located in the center of the vehicle to cradle the nose gear tires in order to provide direct maneuvering of the aircraft. TBLT operations have increased in recent years due to the superior maneuverability provided by these vehicles and a renewed focus on energy and environmental conservation. The absence of towbars and the higher operating speeds mean that aircraft movements, pushbacks, gate-to-gate towing, and maintenance towing can be carried out faster than with conventional towbar tractors, minimizing impacts to airport operations.

While some airports, airlines, and service providers have developed standards specific to their operation of TBLTs, no industry-wide guidance exists for this type of operation. Several incidents involving TBLTs have raised awareness of the need to establish "Best Practices" guidelines for TBLT operations.

Towbarless tractor after disengaging from an aircraft nosewheel.

1.2 Development of Best Practices

The use of TBLTs varies from airport to airport but is generally increasing. Although a TBLT represents a large up-front capital cost, it has several benefits over traditional towbar tractors, including the following:

- More secure control of the aircraft and greater responsiveness;
- Simplicity of use and reduced operator training;
- Allowance for operation in the entire airport environ, including movement areas, without impacting airport operations;
- Elimination of the need to maintain multiple towbars (for each aircraft type); and
- Energy and environmental conservation.

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