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AEROSPACE RECOMMENDED PRACTICE

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Towbarless Towing Vehicle Operating Procedure

FOREWORD

This SAE Aerospace Recommended Practice (ARP) describes the minimum requirements for establishing the operating procedure for operating a Towbarless Tow Vehicle (TLTV).

This document may be used in conjunction with:

ARP4852
ARP4853
ARP5283
ARP5284

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1. SCOPE:

This document describes:

1.1 The minimum requirements for the operation of towbarless towing vehicles equipped with aircraft nose landing gear pick up/release and associated safety systems.

1.2 What procedure should be used in case of an alert given by the Towbarless Towing Vehicle Safety System(s).

1.3 Training of Towbarless Towing vehicle operators.

1.4 Approvals and auditing of third party handlers.

2. REFERENCES:

2.1 Applicable Documents:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

ARP4852	Specification for Towbarless Push-Back Tow Vehicles
ARP4853	Specification for Towbarless Tow Vehicles
ARP5283	Nose Gear Towbarless Tow Vehicle Basic Test Requirements
ARP5284	Safety Inspection, Maintenance and Calibration of TLTV Aircraft NLG Interfaces, Steering Infractive Protection Systems and Alerting Devices - Requirement Specification

2.1.2 IATA Publications: Available from IATA Publications Dept., Route De L'Aeroport 33, BP 672, 1215 Geneva Airport, Switzerland.

AHM 696	Airport Handling Manual/Safety Considerations for Aircraft Movements Operation

2.1.3 JAA Publications: Available from JAA Suturnusstraat 8-10, P.O. Box 3000, NL213OKA, Hoofdorp, Netherlands).

JAR 25 - 745
FAR/JAR 25 - 509

2.1.4 Other Publications:

Towbarless towing Vehicle Manufacturers Operator's Manual

Aircraft Manufacturers Towing Requirements

Aircraft Maintenance Manual

2.2 Definitions:

OVERSTEER ALERT: This is an indication that an over-steer situation has been reached (i.e., buzzer or warning lamp). This may also occur if aircraft steering angles are exceeded.

NLG: Aircraft Nose Landing Gear.

OVERSTEER: Exceeding either the maximum steering angle or maximum allowable torque/torsion limits.

3. TOWBARLESS TOWING VEHICLE OPERATING PROCEDURES:

The operating procedures must consist of:

a. Pre Tow/Push Procedure
b. Tow/Push Procedure
c. Post Tow/Push Procedure

Procedure must include:

a. All limits to be observed, such as: procedures to ensure - over-steer/over-torque guidelines are complied with and method of alert of limits known.

b. All safety checks to be observed, such as: steering by-pass pin fitted; visual inspection after hook up; correct wheel size selected.

c. All actions in response to alerts, such as: procedures to instigate inspection of NLG in accordance with airframe manufacturer's recommendations.

d. Any other procedures/operations to be taken into account to minimize occurrence of TLTV unwanted events.

4. PROCEDURE IN THE EVENT OF A TLTV SAFETY SYSTEM ALERT:

4.1 Responsible Person:

The responsible person is defined as the person who is responsible for the safe movement of the aircraft. This person must ensure that no damage is inflicted to the aircraft by the operation of the TLTV.

The responsible person (this may be the driver) must be fully trained and conversant with the limitations and safety implications of towbarless towing and consequences to the safety of the aircraft in the event of exceeding the towing loads and/or angles. This person must have completed airline recognized training as per Chapter 6.

4.2 Recording Event:

In the case of an alert given by the TLTV safety systems, the responsible person must immediately stop the operation and adhere to the procedures provided by the TLTV manufacturer.

Any situation when a TLTV alert has occurred and/or NLG steering system may have exceeded the airframe manufacturer's operational limit is a reportable occurrence. Inspection of the aircraft components in accordance with the aircraft manufacturer's requirements by a suitably qualified aircraft maintenance engineer will be required. The inspection of NLG will be in accordance with airframe manufacturer's recommendations contained in the relevant manufacturer's manual.

This incidence shall be considered an airline recordable event for aircraft regulatory or maintenance purposes.

This incidence may also require inspection of the TLTV by a suitably qualified maintenance department.

5. TRAINING PROCEDURES:

The TLTV owner/operating agency shall provide a training program.

5.1 All TLTV operators will be trained in accordance with TLTV manufacturer's recommendations for the particular TLTV type and operated within airline procedures.

These must contain full operation and safety procedures, information on all limits, and what to do in an alert situation. They must ensure that there is a responsible person for the operation of the TLTV. These procedures should also take into account the relevant airframe/equipment manufacturer's documentation.

5.2 Recurrent and refresher training should be carried out at suitable intervals.

5.3 Appropriate training records must be kept.