

Issued 1997-12  
Revised 2003-05

Superseding ARP5285

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  
ARP5911  
ARP5916

SAENORM.COM : Click to view the full PDF of arp5285

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright 2003 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)  
Tel: 724-776-4970 (outside USA)  
Fax: 724-776-0790  
Email: [custsvc@sae.org](mailto:custsvc@sae.org)  
SAE WEB ADDRESS: <http://www.sae.org>

SAE values your input. To provide feedback  
on this Technical Report, please visit  
<http://www.sae.org/technical/standards/ARP5285A>

SAE ARP5285 Revision A

TABLE OF CONTENTS

1. SCOPE .....3

2. REFERENCES .....3

2.1 Applicable Documents .....3

2.1.1 SAE Publications .....3

2.1.2 IATA Publications .....3

2.1.3 JAA Publications .....4

2.1.4 Other Publications.....4

2.2 Definitions .....4

3. TOWBARLESS TOWING VEHICLE OPERATING PROCEDURES.....4

4. PROCEDURE IN THE EVENT OF A TLTV SAFETY SYSTEM ALERT .....5

4.1 Responsible Person.....5

4.2 Recording Event .....5

5. TRAINING PROCEDURES .....5

6. THIRD PARTY HANDLERS AUDITING AND APPROVED PROCEDURES.....6

7. NOTES.....6

SAENORM.COM : Click to view the full PDF of arp5285a

## SAE ARP5285 Revision A

### 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
ARP5911	Regional Aircraft Towbarless Tow Vehicle - Test Requirements
ARP5916	Design Specification for Regional Aircraft Towbarless Tow Vehicles for Pushback and/or Maintenance Towing Operations

#### 2.1.2 IATA Publications: Available from IATA Publication Dept., 800 Place Victoria, P.O. Box 113, Montreal, Quebec Canada H4Z 1M1.

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

## SAE ARP5285 Revision A

2.1.3 JAA Publications: Available from JAA Saturnusstraat 8-10, P.O. Box 3000, NL213OKA, Hoofddorp, 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 aircraft wheel size or tractor/aircraft setting as applicable to be 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.