



AEROSPACE RECOMMENDED PRACTICE

ARP1621™

REV. C

Issued 1980-03
Reaffirmed 2012-01
Revised 2017-09

Superseding ARP1621B

(R) ULD for Aircraft Transportation of Horses

RATIONALE

ARP1621C clarifies the function of the Unit Load Devices (ULDs) described, updates the references, corrects editorial content compared to ARP1621B, and harmonizes it with other industry standards.

1. SCOPE

This SAE Aerospace Recommended Practice (ARP) defines minimum requirements for an aircraft transport ULD to transport horses properly and safely by air, to protect the horse(s) from injuries, and to protect the aircraft from corrosion created by waste spill. The ULD is designed to accommodate one horse or several.

There are two types of ULDs for aircraft transportation of horses:

- a. Type 1: The ULD is an airworthiness certified structural container, satisfying the requirements of NAS 3610 or AS36100 for the appropriate base size.
- b. Type 2: The ULD consists of a self-contained stall which is positioned on a standard aircraft pallet and restrained to the pallet by means of a cargo pallet net or by straps.

WARNING: It is the carrier's responsibility to obtain airworthiness approval for a Type 2 unit using strap-restraint. Refer to 7.1b (Documentation).

1.1 Purpose

This document provides recommendations for the design of unit load devices for transportation of horses in an approved aircraft cargo compartment and restraint system that complies with the cargo restraint requirements of Title 14 CFR Part 25, except for the 9.0 g forward ultimate inertia force of § 25.561 (b)(3)(ii).

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 revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2017 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: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
<http://www.sae.org>

SAE WEB ADDRESS:

Full document details: SAE ARP1621C

SAE values your input. To provide feedback
on this Technical Report, please visit
<http://standards.sae.org/ARP1621C>

Documents
Document Sharing Hub

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 International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

- AS1491 Interline Air Cargo Pallets
- AS1492 Interline Air Cargo Pallet Nets
- AS5385 Cargo Restraint Straps - Design Criteria and Testing Methods
- AS36100 Air Cargo Unit Load Devices – Performance Requirements and Test Parameters

2.1.2 ISO Publications

Copies of these documents are available online at <http://webstore.ansi.org/>. Abroad, Available from International Organization for Standardization, ISO Central Secretariat, 1, ch. de la Voie-Creuse, CP 56, CH-1211 Geneva 20, Switzerland, Tel: +41 22 749 01 11, www.iso.org.

- ISO 4170 Interline Air Cargo Pallet Nets
- ISO 4171 Interline Air Cargo Pallets
- ISO 9469 ULD for Aircraft Transportation of Horses
- ISO 16049-1 Air cargo equipment - Restraint straps - Part 1: Design criteria and test requirements
- ISO 16049-2 Air cargo equipment - Restraint straps - Part 2: Utilization guidelines and lashing calculations

2.1.3 IATA Publications

Available from International Air Transport Association, Publications Assistant, 800 Place Victoria, P.O. Box 113, Montreal, Quebec H4Z 1M1, Canada, Tel: 1-514-874-0202, www.iata.org.

- IATA SS 40/0 Marking of Unit Load Devices
- IATA SS 50/0 ULD General Technical Requirements
- IATA SS 50/1 Aircraft Pallet
- IATA SS 50/2 Aircraft Pallet Net
- IATA SS 50/9 16 ft or 20 ft Pallet

IATA SS 60/2 Air Cargo Restraint Strap

IATA SS 90/2 Aircraft Horse Transport ULD

IATA Airport Handling Manual, Chapter 9 Ground Support Equipment Specifications

IATA Live Animals Regulations

NOTE: IATA SS 40/0 through SS 90/2 are published in one and the same IATA ULD Regulations.

2.1.4 NAS Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, www.aia-aerospace.org.

NAS 3610 Minimum Airworthiness Requirements and Test Conditions for Air Cargo Unit Load Devices

3. DESIGN

3.1 The ULD for aircraft transportation of horses shall be designed for the following base/pallet dimensions:

- a. Size code "A": 88 x 125 inches (2235 x 3175 mm)
- b. Size code "M": 96 x 125 inches (2438 x 3175 mm)
- c. Size code "B": 88 x 108 inches (2235 x 2743 mm)
- d. Size code "G": 96 x 238.5 inches (2438 x 6058 mm)
- e. Size code "R": 96 x 196 inches (2438 x 4978 mm)

3.2 The base of the unit shall be designed according to SAE, ISO, and IATA standards per specifications listed in AS1491, ISO 4171, IATA 50/1, and IATA 50/9.

3.3 Type 2 stalls shall be restrained to the pallet by means of a cargo pallet net or by straps.

3.4 The cargo pallet net shall be in accordance with SAE, ISO, and IATA standards as per specifications listed in AS1492, ISO 4170, or IATA 50/2.

3.5 Knock-down units, when considered, shall meet all structural requirements of NAS3610/AS36100. Fasteners and means of re-assembly and positive means of control shall be provided to guarantee that the re-assembled unit will entirely meet the airworthiness certified design condition.

3.6 Considerations shall be given in the design to minimize the noise within the unit.

3.7 Cleaning of the stall, including any internal padding, shall be as easy as possible. In extremely contaminated condition hot-water cleaning is permissible but only with a maximum temperature of 160 °F (70 °C). It is not permitted to use steam cleaning for sealed edges around the floor.

3.8 The unit construction shall be strong and resilient; capable of resisting possible kicking; free of fixed protrusions likely to cause injury. Reinforcing metal plates should be covered by protective material. Any catches used should be simple and easy to operate.