EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2011-0223 **Date: 24 November 2011** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Approval Holder's Name :	**Type/Model designation(s) :**
PEMCO World Air Services, Inc.	Main Deck Cargo Door Installation

STC Number(s):	Several European validations of FAA STC SA2969SO, e.g. CAA UK AAN 24984 and Addendum 1 (EASA approval 2004-3750), later replaced by STC EASA.IM.A.S.02424.
Foreign AD :	None
Supersedure :	None
ATA 29, 52	**Hydraulic Power – Main Cargo Door (MCD) Hydraulic System & Control Panel – Modification** **Doors – MCD & Surround Structure – Replacement / Modification**
Manufacturer(s):	PEMCO Aeroplex, Inc.
Applicability:	Boeing 737-300 series aeroplanes, manufacturer serial numbers 23499, 23500, 23524, 23685, 23788, 23809, 23810, 23811, 24021, 24132, 24364, 24387, 24388, 24789, 25124, 25402, 25426, 25744, 26850, 26851, 27125 and 27347, modified in accordance with FAA STC SA2969SO by using PEMCO MDL 2373 revision J, or earlier.
Reason:	PEMCO STC SA2969SO introduces a large main deck cargo door, converting a passenger Boeing 737-300 into a Quick-Change freighter or pure freighter aeroplane. The first design associated with FAA STC SA2969SO in 1991 produced in-service cracking of the door and surround structure after 3 years of continuous service. The FAA performed a review of the STC approval of this modification as a part of a global review of freighter conversion STCs, implemented in response to other in-service findings. This review, which was primarily focused on in-service experience rather than certification problems, resulted in a group of FAA ADs to correct the deficiencies identified in the 1991 design. In 2003, when the CAA of the United Kingdom performed a validation of this STC, potential dormant failures of main cargo actuation and indication systems were identified. To address the risk incurred by such dormant failures, European certification specifications (formerly JAR, now CS) 25.783 and 25.1309 demand a high level of integrity for the locking, latching and

	signalling systems of such doors. In addition, a number of fundamental non-compliance aspects were identified, e.g. proof of strength (JAR/CS 25.307), for the new modified and affected structure of the fuselage and door; jacking (JAR/CS 25.519), lack of adequate instructions; damage tolerance (JAR/CS 25.571) for the new, modified and affected structure of the fuselage and door; fabrication methods (JAR/CS 25.605), lack of adequate instructions for maintenance and inspection; and emergency landing conditions and stowage compartments (JAR/CS 25.561 and 787), application of the correct inertias in both the passenger and cargo roles. In 2002, PEMCO amended the original 1991 design, creating its second generation 737-300 cargo STC via a major design change to the cargo door and surrounding structure. This amended STC design was used to resolve early design issues via a comprehensive Service Bulletin (SB) action to replace the cargo door and upgrade the aircraft structure, thereby providing terminating action for the associated FAA ADs. These SB changes, which are detailed in PEMCO SB 737-29-0011 – *MCD Hydraulic System and Control Panel Upgrade*, and SB 737-52-0033 – *Replace/Upgrade Main Cargo Door and Upgrade Surround Structure*, respectively, address and correct the deficiencies, as identified during the 2003 CAA UK validation, in the design of the door systems and the main cargo actuation and indication systems. EASA concurred with the findings and conclusions of the CAA UK validation and decided to adopt these into the European design standard for the validation of PEMCO STC SA2969SO, currently STC EASA.IM.A.S.02424. These modifications have also become part of the FAA STC modification instructions, so only aeroplanes modified before this STC update are affected. EASA recognises the existing group of FAA ADs, which have been adopted by EASA, that require repetitive inspections of the affected structures and systems, which also provide for the same modifications as an optional terminating action. However, EASA has determined that these modifications must be required to enhance the safely level of the affected aeroplanes and terminate the repetitive inspections. This condition, if not corrected, could lead to opening of the cargo door at high altitude, resulting in rapid decompression, flight control difficulties and possible loss of the aeroplane. For the reasons described above, this AD requires the accomplishment of the modifications as described in the referenced PEMCO Service Bulletins.
Effective Date:	06 December 2011
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 72 months after the effective date of this AD, modify the aeroplane as required by paragraph (1.1) or (1.2), as applicable: (1.1) For aeroplanes that have been modified in accordance with FAA STC SA2969SO by using PEMCO MDL 2373 at revision F or earlier, accomplish the instructions of PEMCO SB 737-29-0011 and SB 737-52-0033. (1.2) For aeroplanes that have been modified in accordance with FAA STC SA2969SO by using PEMCO MDL 2373 at revision G, revision H or revision J, accomplish the instructions of PEMCO SB 737-29-0011. (2) Modification of an aeroplane, prior to the effective date of this AD, in accordance with PEMCO SB 737-52-0033 at Revision 5 or earlier, and/or in accordance with PEMCO SB 737-29-0011 at Revision 18 or earlier, as applicable, is acceptable to comply with the requirements of

	paragraph (1) of this AD. After the effective date of this AD, the instructions of PEMCO SB 737-29-0011 Revision 19 and of PEMCO SB 737-52-0033 Revision 6 must be used. (3) Incorporation of PEMCO SB 737-52-0033 constitutes terminating for the repetitive inspection requirements of FAA ADs 95-06-05, 98-04-41, 2001-09-15 (which superseded AD 95-01-06R1) and 2004-03-23 (which superseded AD 2001-08-07).
Ref. Publications:	PEMCO SB 737-29-0011 Revision 19 dated 19 September 2008. PEMCO SB 737-52-0033 Revision 6 dated 25 August 2011.
Remarks :	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 09 May 2011 as PAD 11-051 for consultation until 06 June 2011. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: PEMCO World Air Services, 100 Pemco Drive, Dothan, Alabama 36303, United States of America, Telephone +1 334-983-7062, E-mail technicalsupport@pemcoair.com. Internet http://www.pemcoair.com.