A300-600 – ATA29 - Hydraulic Fluid Sampling

Background:
The purpose of this Engineering Notice is to remind all maintenance personnel of the importance of strictly following Aircraft Maintenance Manual procedure (AMM 12-32-29) for the removal of Hydraulic Fluid Samples on the Airbus A300-600 aircraft.

Discussion:
During a recent L-Check at Thai Airways, MPD task 290000-03-1 HYDRAULIC SYSTEM FLUID SAMPLING was carried out on EI-OZJ MSN 0770 and sent to Solutia, Newport, South Wales for testing. The results of the Fluid Analysis Report revealed high particle count levels in all three HYD systems. A300B4-600 AMM 12-32-29 outlines the dispatch limits for HYD fluid contamination, SIL 29-081 provides additional temporary dispatch limits and the limits in both documents are quite stringent.

This caused the A/C to be declared AOG for a total of three days while three HYD systems were flushed prior to the A/C being declared serviceable.

As part of the troubleshooting of this defect, HYD samples were taken BEFORE and AFTER the flushing of the three HYD systems, the results of both samples returned a PASS result which indicated that the original samples were contaminated by an external source.

Conclusion:
To avoid contamination of the hydraulic samples, maintenance personnel are requested to strictly follow AMM 12-32-39 for the removal of hydraulic fluid sampling, paying particular attention to the following:

- Maintenance personnel are to ensure that all sample bottles PN LIT724004 are new and clean and the samples are removed from correct location (see attached drawing).
- The sampling valve has been CLEANED and FLUSHED - the sampling valve is flushed by draining ADEQUATE amounts of WARM fluid (Min 0.2 L) (0.052 USgal) in a SEPARATE bottle prior to the sample being taken.
- Once the sampling valve has been cleaned and flushed, it must not be touched again during the sampling operation. In the event of repeated sampling, the valve shall be flushed each time by allowing the same quantity to drain off into container, i.e. 0.2 l (0.052 USgal).
- Do not use sampled fluid to rinse out the bottle.
- To avoid sample contamination, do not wipe drops on sampling valve and on sampling bottle.

Maintenance personnel are to ensure before using external filling rigs that ground support equipment is serviceable and when working on HYD systems, to ensure that all precautions are observed to avoid the possibility of contamination.
A300-600 - Hydraulic Fluid Sample

Prepared by: Mick Glynn
Technical Services Engineer

Authorised by: Éamon Stapleton
Technical Services Manager
**AIRWORTHINESS DIRECTIVE**

**AD No.:** 2014-0026

**Date:** 28 January 2014

**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.

<table>
<thead>
<tr>
<th>Design Approval Holder’s Name:</th>
<th>Type/Model designation(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRBUS</td>
<td>A300-600, A300-600ST and A310 aeroplanes</td>
</tr>
</tbody>
</table>

**TCDS Numbers:** France n° 145 and EASA.A.014

**Foreign AD:** Not applicable

**Supersedure:** None

**ATA 55**

Stabilizers – Rudder Side Shell Sandwich Repair – Inspection

**Manufacturer(s):** Airbus (Formerly Airbus Industrie)

**Applicability:** Airbus A300-600, A300-600ST and A310 aeroplanes, all certified models, all manufacturer serial numbers.

**Reason:**

A case of skin disbonding was reported on a composite side panel of a rudder installed on an A310 aeroplane.

The investigation results revealed that this disbonding started from a skin panel area previously repaired in-service in accordance with the Structural Repair Manual (SRM).

The initial damage has been identified as a disbonding between the core and the skin of the repaired area. This damage may not be visually detectable and likely propagates during normal operation due to the variation of pressure during ground-air-ground cycles.

This condition, if not detected and corrected, could affect the structural integrity of the rudder, possibly resulting in reduced control of the aeroplane.

For the reasons described above, this AD requires a one-time thermography inspection of each repaired rudder or rudder whose maintenance records are incomplete and, depending on findings, accomplishment of applicable corrective and follow-up actions.

**Effective Date:** 11 February 2014
### Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

1. Within 4 months after the effective date of this AD, check the maintenance records of the rudder to determine if any composite side shell panel repair has been accomplished since first installation on an aeroplane, e.g. in accordance with an Airbus Repair Approval Sheet, SRM instructions, or any other approved repair solution.

2. If, based on available maintenance record analysis, a repair is identified as affected by an SRM procedure identified in figure A-GBBAA (Sheet 01 and 02) or figure A-GBCAA (Sheet 02) of Airbus Service Bulletin (SB) A310-55-2051 or figure A-GBBAA (Sheet 01, 02 or 03) or figure A-GBCAA (Sheet 02 or sheet 04) of SB A300-55-6050, within 24 months after the effective date of this AD, accomplish a rudder thermography inspection limited to the repaired area(s) in accordance with the instructions of Airbus SB A310-55-2051 or SB A300-55-6050, as applicable.

3. For a rudder where maintenance records are not available or incomplete, within 24 months after the effective date of this AD, accomplish a thermography inspection on complete side shells to identify and mark the repair location(s) in accordance with instructions of Airbus SB A310-55-2051 or SB A300-55-6050, as applicable. Not later than 3 months before accomplishment of the thermography inspection as required by this paragraph, report the undocumented rudder by serial number (s/n) to Airbus to obtain related rudder manufacturing reworked data.

4. After the inspection as required by paragraph (2) or (3) of this AD, as applicable, depending on findings, within the compliance times and intervals defined in Tables 3, 4A, 4B, 4C, 4D and 5 of Airbus SB A310-55-2051 or SB A300-55-6050, as applicable, accomplish supplemental inspections and, depending on findings, corrective actions, in accordance with the instructions of Airbus SB A310-55-2051 or SB A300-55-6050, or Airbus approved specific instructions, as applicable.

5. Aeroplanes fitted with a rudder having a s/n which is not in the range HF-1005 to HF-1323 inclusive, HF-1325, HF-1327, HF-1329, HF-1331, HF-1332, HF-1340, TS-1324, TS-1326, TS-1328, TS-1330, TS-1333 to TS-1339 inclusive, TS-1341 to TS-1420 inclusive or TS-2001 to TS-2197 inclusive, are not affected by the requirements of paragraphs (2), (3) and (4) of this AD, provided that it is determined that no repairs, in accordance with SRM procedures as identified in paragraph (2) of this AD, have been accomplished on the composite side shell panel of that rudder since first installation on an aeroplane.

6. From the effective date of this AD, in case of rudder replacement, it is allowed to install a rudder on an aeroplane, provided that, prior to installation, it is determined that the rudder is compliant with the requirements of paragraphs (2), (3), (4) and (5) of this AD.

7. From the effective date of this AD, do not accomplish a composite side shell panel repair on any rudder using an SRM procedure as identified in figure A-GBBAA (Sheet 01 and 02) or figure A-GBCAA (Sheet 02) of Airbus SB A310-55-2051 or figure A-GBBAA (Sheet 01, 02 or 03) or figure A-GBCAA (Sheet 02 or sheet 04) of SB A300-55-6050, as applicable.

### Ref. Publications:


Airbus SB A300-55-6050 initial issue dated 11 September 2012.

The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.

### Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 03 April 2013 as PAD 13-051 for consultation until 01

3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).

4. For any question concerning the technical content of the requirements in this AD, please contact: AIRBUS SAS – EAW (Airworthiness Office), Telephone: +33 (0)5 6118-4139, Fax: +33 (0)5 6193-4451, or E-mail: continued.airworthiness-wb.external@airbus.com.
**EASA**

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<td><strong>Date:</strong> 05 February 2014</td>
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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 EU 748/2012, Part 21.A.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].

**Design Approval Holder's Name:**
AIRBUS

**Type/Model designation(s):**
A300-600, A300-600ST and A310 aeroplanes

**TCDS Numbers:**
France No. 145 and EASA.A.014

**Foreign AD:**
Not applicable

**Supersede:**
None

**ATA 24**
**Electrical Power – Wing Electrical Installation – Modification**

**Manufacturer(s):**
Airbus (formerly Airbus Industrie)

**Applicability:**
Airbus A300-600, A300-600ST and A310 aeroplanes, all certified models, all manufacturer serial numbers.

**Reason:**
Following publication of FAA SFAR 88 (Special Federal Aviation Regulation 88), EASA issued AD 2006-0076 requiring inspection and corrective action to improve the explosion risk protection system for the left hand (LH) and right hand (RH) wings on A300, A300-600, A300-600ST and A310 aeroplanes.

For A300-600, A300-600ST and A310 aeroplanes, the required detailed visual inspections of electrical bundles located in the leading and trailing edges of the RH and LH wings and a review of the wing electrical installation on the final assembly line have shown that the wing electrical installation does not comply with the minimum distance inspection criteria to the surrounding structure in a few wing locations.

This condition, if not detected and corrected, could lead to damage on the electrical harnesses and on the surrounding structure.

To address this unsafe condition, Airbus developed an improvement of the wing electrical installation to prevent possible chafing and subsequent damage to the electrical harnesses and surrounding structure.

For the reasons described above, this AD requires installation of new bracket assemblies to ensure the clearance between the wiring and the structure, and installation of protective split sleeves as mechanical protection to the electrical harnesses.

**Effective Date:**
19 February 2014
### Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

1. Within 30 months after the effective date of this AD, modify the electrical installation in the RH side and LH side wings in accordance with the instructions of Airbus Service Bulletin (SB) A300-24-6103 Revision 02, or SB A300-24-9014 Revision 01, or SB A310-24-2105 Revision 01, as applicable to aeroplane model.

2. Modifications, accomplished before the effective date of this AD in accordance with the instructions of Airbus SB A300-24-9014 or SB A310-24-2105 at original issue, as applicable to aeroplane model, are acceptable to comply with the requirements of paragraph (1) of this AD.

### Ref. Publications:

Airbus SB A300-24-6103 Revision 02 dated 07 February 2013.

Airbus SB A300-24-9014 original issue dated 17 June 2010, or Revision 01 dated 23 April 2013.

Airbus SB A310-24-2105 original issue dated 20 March 2013 or Revision 01 dated 11 December 2013.

The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.

### Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 11 October 2013 as PAD 13-157 for consultation until 08 November 2013. The Comment Response Document can be found at [http://ad.easa.europa.eu](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:

   AIRBUS SAS – EIAW (Airworthiness Office)
   
   E-mail: continued.airworthiness-wb.external@airbus.com.
# EASA AIRWORTHINESS DIRECTIVE

**AD No.:** 2014-0101  
**Date:** 02 May 2014  

**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 EU 748/2012, Part 21.A.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).

<table>
<thead>
<tr>
<th>Manufacturer(s):</th>
<th>Airbus (formerly Airbus Industrie)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicability:</td>
<td>Airbus A300B4-603, A300B4-605R, A300B4-620, A300B4-622, A300B4-622R, A300C4-605R and A300C4-620 aeroplanes, all Manufacturer Serial Numbers (MSN); and Airbus A300F4-605R aeroplanes, all MSN, except those on which Airbus Modification No. 12699 has been embodied in production.</td>
</tr>
<tr>
<td>Reason:</td>
<td>In the frame of the Ageing Airplane Safety Rule (AASR), all existing Structural Repair Manual (SRM) repairs were reviewed. This analysis, which consisted in new Fatigue and Damage Tolerance calculations, revealed that some repairs in the area surrounding the forward passenger/crew door and the fail safe ring are no longer adequate. These repairs, if not reworked, could affect the structural integrity of the aeroplane. To address this potential unsafe condition, Airbus issued Service Bulletin (SB) A300-53-6173 (later revised), to provide instructions for the inspection of repairs on the left-hand (LH) and right-hand (RH) forward door surrounding panels. For the reasons described above, and further to the AASR implementation, this AD requires a one-time inspection of the forward door surrounding panels to identify SRM repairs in these areas and, depending on findings, accomplishment of applicable corrective action(s).</td>
</tr>
<tr>
<td>Effective Date:</td>
<td>16 May 2014</td>
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</table>

**Design Approval Holder's Name:**  
AIRBUS  

**Type/Model designation(s):**  
A300-600 aeroplanes

**TCDS Number:**  
France No. 145

**Foreign AD:**  
Not applicable

**Supersedure:**  
None

**ATA 53**  
Fuselage – Forward Door Surrounding Panels – Inspection / Rework / Repair
**Required Action(s) and Compliance Time(s):**

Required as indicated, unless accomplished previously:

1. Within the compliance time defined in Table 1 of this AD, accomplish a detailed inspection (DET) of the LH and RH forward passenger door surrounding panels in accordance with the instructions of Airbus SB A300-53-6173 Revision 01.

<table>
<thead>
<tr>
<th>Compliance Time (whichever occurs later, A or B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td><strong>B</strong></td>
</tr>
</tbody>
</table>

2. If, during the DET as required by paragraph (1) of this AD, any affected repair is found, before next flight, identify the reworked area(s), the percentage of the rework and the reworks limit in accordance with the instructions of Airbus SB A300-53-6173 Revision 01.

3. If, during the analysis as required by paragraph (2) of this AD, any rework is found outside the Allowable Damage Limits of the applicable A300-600 SRM, before next flight, report those findings to Airbus to obtain rework approval or repair instructions, as applicable, and, in case repair is required, within the compliance time defined in the instructions received from Airbus, accomplish the repair accordingly.

4. Actions accomplished before the effective date of this AD in accordance with the instructions of Airbus SB A300-53-6173 at original issue are acceptable to comply with the requirements of this AD.

**Ref. Publications:**

Airbus SB A300-53-6173 original issue dated 01 August 2013 or Revision 01 dated 28 February 2014.

The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.

**Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. This AD was posted on 07 October 2013 as PAD 13-156 for consultation until 04 November 2013, and re-published on 02 April 2014 as PAD 13-156R1 for additional consultation until 16 April 2014.

   The Comment Response Document for PAD 13-156 can be found at [http://ad.easa.europa.eu](http://ad.easa.europa.eu). No comments were received during the consultation period of PAD 13-156R1.

3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).

4. For any question concerning the technical content of the requirements in this AD, please contact:

   AIRBUS SAS – EIAW (Airworthiness Office)

   E-mail: [continued.airworthiness-wb.external@airbus.com](mailto:continued.airworthiness-wb.external@airbus.com)
### Design Approval Holder's Name:
AIRBUS

### Type/Model designation(s):
A300-600 and A310 aeroplanes

### TCDS Number:
France No. 145

### Foreign AD:
Not applicable

### Supersedure:
None

#### ATA 53

**Fuselage – Aft Cargo Door Sill Beam Area – Inspection**

#### Manufacturer(s):
Airbus (formerly Airbus Industrie)

#### Applicability:
Airbus A300-600 and A310 aeroplanes, all certified models, all Manufacturer Serial Numbers on which Airbus modification (mod) 05438 has been embodied in production, except those on which mod 12046 has been embodied in production.

#### Reason:
During accomplishment of Maintenance Review Board Report (MRBR) task 531625-01-1 on an A300-600 aeroplane having accumulated more than 25 000 flight cycles (FC) since aeroplane first flight, multiple fatigue cracks were found on the following parts:
- Aft cargo door sill beam Part Number (P/N) A53973085210
- Lock fitting P/N A53978239002
- Torsion box plate P/N A53973318206.

Prompted by these findings, a stress analysis was performed during which it was discovered that there is no dedicated scheduled maintenance task to inspect the affected area for fatigue damage.

The loss of more than one lock fitting could lead to loss of the door locking function and, subsequently, complete loss of the cargo door in flight with associated risk of rapid decompression.

To address this unsafe condition, Airbus issued Alert Operators Transmission (AOT) A53W005-14 providing instructions for inspection of the affected area.

For the reason described above, this AD requires repetitive ultrasonic inspections or detailed inspections (DET) of the aft cargo door sill beam external area, or a one-time High Frequency Eddy Current (HFEC) inspection.
of the aft cargo door sill beam internal structure and, depending on findings, accomplishment of corrective action(s).
This AD is considered an interim measure and further AD action may follow.

Effective Date:
25 April 2014

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:
(1) Within the compliance time as specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 275 FC, accomplish an ultrasonic inspection or DET of the aft cargo door sill beam external area in accordance with the instructions of Airbus AOT A53W005-14.

Table 1 – Threshold for Initial Inspection

<table>
<thead>
<tr>
<th>FC accumulated since aeroplane first flight (on the effective date of this AD)</th>
<th>Compliance Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 000 FC or more</td>
<td>Within 50 FC after the effective date of this AD</td>
</tr>
<tr>
<td>18 000 FC or more, but less than 30 000 FC</td>
<td>Within 275 FC after the effective date of this AD</td>
</tr>
<tr>
<td>Less than 18 000 FC</td>
<td>Before exceeding 18 275 FC since aeroplane first flight</td>
</tr>
</tbody>
</table>

(2) If, during any inspection as required by paragraph (1) of this AD, any cracks are found, before next flight, contact Airbus for approved repair instructions and accomplish those instructions accordingly.

(3) Accomplishment of a HFEC inspection in accordance with the instructions of Airbus AOT A53W005-14 and, depending on findings, accomplishment of applicable corrective action(s) before next flight after that HFEC inspection in accordance with approved Airbus instructions, constitutes terminating action for the repetitive inspections as required by paragraph (1) of this AD for that aeroplane.

(4) Within 30 days following the initial ultrasonic inspection or DET as required by paragraph (1) of this AD, report the inspection results, including no findings, to Airbus.

Ref. Publications:
Airbus AOT A53W005-14 dated 22 April 2014.
The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.

Remarks:
1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. The results of the safety assessment have indicated the need for immediate publication and notification, without the full public consultation process.
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: AIRBUS SAS – EIAW (Airworthiness Office) E-mail: continued.airworthiness-wb.external@airbus.com.
Continuation Training Letter 159

Maintenance Department
&
Quality & Safety Department

Date: 29.08.2014

Gear Change

with crossed wirings / connectors

The Continuation Training Letter (CTL) is an official training tool and information platform. All CTLs are issued and numbered consecutively. A CTL can only be revised by issuing of a new CTL, invalidating or complementing the former.

TP_EAT_QM_007_CTL
<table>
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<tr>
<th>No.</th>
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<tr>
<td>Module:</td>
<td>IOSA / EASA / LBA requirements&lt;br&gt;Company Procedure&lt;br&gt;Human Factors&lt;br&gt;Fuel Tank Safety&lt;br&gt;EWIS&lt;br&gt;Engineering and OPS Procedure / relevant Technology&lt;br&gt;safety related</td>
</tr>
<tr>
<td>Subject:</td>
<td>Gear Change with crossed wirings / connectors</td>
</tr>
<tr>
<td>Applicability:</td>
<td>All staff working on behalf of EAT (DE.145.0399)</td>
</tr>
<tr>
<td>References:</td>
<td>This CTL is to inform all EAT staff working on behalf of DE.145.0399 about gear change and the possibility to cross wirings / connectors.</td>
</tr>
<tr>
<td>Reason:</td>
<td>During the gear replacement on an Airbus A300-600, due to time expiring of the installed gear, it came to some issues, which should be brought to your attention to prevent same problems in the future. The result was, that during the first days of operation a few wheels have been changed, due to flat spots, in one case it ended in a burst tire, due to release of the wrong Brake #3 or #4 during Anti Skid operation.</td>
</tr>
<tr>
<td>Pay special attention to:</td>
<td>An Operational Test of the Anti Skid System i.a.w AMM 32-42-00 PB 501 have to be carried out, to verify that the correct brake will be released during operation. It is very important to take care about this, to prevent that a wheel with a flat spot is exploding during flight from the safety point of view. Furthermore, extensive damages to the wheel well structure can be caused.</td>
</tr>
<tr>
<td>Remarks:</td>
<td>All authorized certifying staffs are required to work in compliance with approved maintenance instructions (e.g. AMM, Operator Procedures, Maintenance Procedures, etc.). Please consider the importance of our daily maintenance performance, resulting from the personnel performance of any individual.</td>
</tr>
</tbody>
</table>
Continuation Training Letter 160

Maintenance Department &
Quality & Safety Department

Date: 29.08.2014

Oxygen Mask Installation & Stowage
on A300-600 & B777

The Continuation Training Letter (CTL) is an official training tool and information platform. All CTLs are issued and numbered consecutively. A CTL can only be revised by issuing of a new CTL, invalidating or complementing the former.

TP_EAT_QM_007_CTL
### No. 160

| Module: | IOSA / EASA / LBA requirements
|         | Company Procedure
|         | Human Factors
|         | Fuel Tank Safety
|         | EWIS
|         | Engineering and OPS Procedure / relevant Technology
|         | safety related

**Subject:** Oxygen Mask & Stowage on A300-600 & B777

**Applicability:** All staff working on behalf of EAT (DE.145.0399)

**References:** This CTL is to inform all EAT staff working on behalf of DE.145.0399 about Oxygen Mask & Stowage on A300-600 & B777.

**Reason:** Wrongly installed and stowed oxygen mask.

1.) A300 & B757 & B767

The Oxygen mask was stowed in the stowage box without being linked to the stowage box door. As a consequence, the mask stuck behind a small groove and could not be extracted in a common way (e.g. by pulling the green hose).

The **functionality of the mask was not compromised** but in a serious situation essential time could have been wasted.

The Aircraft Maintenance Manuals (AMM) do not reflect clearly how the oxygen mask has to be stowed. The mask must be stowed in the stowage box with the pin and the notch aligned. Respecting this, an unrestricted handling can be granted and the oxygen mask can be extracted easily.

Pay special attention to:

![Image of the oxygen mask stowage]

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TP_EAT_QM_007_CTL

CTL 159

01.04.2014/Rev05
2.) B777:

During an emergency of a B777 it was realized, that some 777 Passenger Oxygen Mask were not appropriate installed.

Therefore, please take into account the attached B777 - Passenger Oxygen Mask Packing Procedure in addition to the Aircraft Maintenance Manual (AMM).

- see B777 - Passenger Oxygen Mask Packing Procedure
Remarks: As the equipment for Airbus and Boeing is similar, this information is important for both fleets.

Approvals:

Rüdiger Karl
Director Maintenance

André Fabricius
Quality Manager Technical

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via Q-Pulse:
(use "Reference Groups")

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- LoCS_only Contractor
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- T/CAMO
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- Comp
- PLAN
- ENG
- MCC/MOC
- HR/Training
- QM Technical

(please specify, e.g. BPS, AM)
777 Passenger Oxygen Mask Packing Procedure

CONTENT OWNER:

BCAG PAYLOADS - 777 PASSENGER SERVICE UNITS, U-M2DP

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**Preparing Organization (if different from owning organization)**

<table>
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<td>IBM PC Microsoft Word 97</td>
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**Location of Software Files (optional)**

Electronic copies are filed with the 777 Passenger Service Units Group

**Boeing Web URL (optional)**

**Notes and Limitations (optional)**

**Signatures for original release**

**AUTHOR:**

<table>
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<tr>
<th>H. Franco</th>
<th>B-P4HU</th>
<th>11-02-1993</th>
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</thead>
<tbody>
<tr>
<td>Sign and type: First Name MI Last Name</td>
<td>Org. Number</td>
<td>Date</td>
</tr>
</tbody>
</table>

**APPROVAL:**

<table>
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<th>A. McKim</th>
<th>B-P4HU</th>
<th>11-02-1993</th>
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Abstract

This document defines the acceptable procedure for packing passenger oxygen masks into 777 oxygen modules (center, outboard, lavatory, attendant, purser, galley, crew, etc.) The procedures presented herein must be followed in detail in order to obtain a consistent deployment of the masks.

KEY WORDS

Passenger Oxygen Mask Oxygen Hoses
Door Latch/Actuator Lanyard
Coil Retainer Streamer
Reservoir Bag Passenger Service Units (PSU)
Facepiece Cup or Mask Oxygen Box
Test Stop Key Manifold
Mask Tandem
1. INTRODUCTION

The passenger oxygen mask packing procedures contained herein were developed for the Passenger Service Unit (PSU) installations in the 777 airplane.

For initial packing, all procedures presented herein must be followed in detail in order to obtain a clean drop-out of the masks.

Prior to performing the packing or inspection operations in Section 2, 3, 4, 5, 6, 7, 8, or 9 of this specification, personnel shall receive documented instruction on the applicable tasks. Qualified personnel shall do packing of masks. Certified personnel shall do testing, installation, inspection, maintenance, and repair of system components as stated in BAC 5402 (Paragraph 8.1a).

Lint-free white gloves shall be worn by all personnel working on oxygen components as stated in BAC 5402 (Paragraph 8.1c).

Note: Document D418W001 does not control oxygen cleanliness requirements. See reference document.

1a. Purpose

This document provides the passenger oxygen mask packing procedure for all oxygen box configurations used on the 777 aircraft. This document is the authority for 777 passenger oxygen mask packing procedures.

1b. Scope

This document’s intended use is to define the passenger oxygen mask packing procedure for all oxygen boxes used on 777 aircraft. There are six different types of oxygen boxes. Type A is used in Lavatories, Galleys, Purser Work Stations, Cross Aisles and some Crew Rests. Types B and C are used below the center and outboard stowbins. Types D and E are the same as Types B and C except with streamers. Type F is used exclusively in the upper deck Crew Rests. This combination of oxygen boxes serves passengers, flight attendants, and flight crew in both the upper and lower Crew Rests and the Main Cabin as well.

1.1 MASK STOWAGE BOX DELATCHING AND DOOR OPENING

To avoid inadvertent mask dropping and repacking, install test stop key as shown in Figure 1.1. Insert key through slot in door until a positive click of engagement is heard. To remove the key, push upwards until the key bends slightly. Move the key
to the left or right side of the slot while maintaining upwards pressure and then pull down to remove.

To open the oxygen mask stowage box door, actuate the door latch/actuator by inserting a small cylindrical tool (less than 0.125 inches in diameter) through the access hole located near the forward or aft end of the oxygen box door. Push upwards until the latch disengages. See Figure 1.2.

To release the oxygen box panel from the rail, see the following procedures:

1.1a Types B and D:

Insert a small cylindrical tool (less than 0.125 inches in diameter) through one of the holes located on the side of the PSU panel. The corresponding edge of the PSU panel will hang down slightly once the latch pawl has disengaged from the PSU rail. Repeat this procedure at the other end (aft or forward) of the PSU panel. Gently lower the oxygen box panel until it is supported by its’ lanyard.

1.1b Types C, E, and F:

Place the short end of an Allen wrench (recommended) or the curved end of a cotter pin remover or similar hooked device over the inboard edge of the PSU panel. From either the aft or forward end of the panel, lightly drag the device used towards the opposite end until resistance is encountered. This indicates that a latch pawl has been found. Push and slightly twist the hooked end of the delatching device towards the latch pawl (not visible) until the pawl clears the PSU rail. The corresponding edge of the PSU panel will hang down slightly once the latch pawl has disengaged from the PSU rail. Repeat this procedure at the other end (aft or forward) of the PSU panel. Gently lower the oxygen box panel until it is supported by its’ lanyard.

1.2 MASK PREPARATION PROCEDURE:

Refer to Figures 1.3 to 1.7.

Examine each mask assembly for nicks, cuts, abrasions, and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material. Note: Normal coiling and packing of mask assemblies may leave temporary deformation in the mask assembly materials. This is acceptable and does not affect the performance of the mask assembly.
1.2a Fold Bag and Headband:

a. Place headband lengthwise onto open bag.

b. Fold bag into thirds, closing over headband.

c. Fold bag and headband twice. (For Type A & E only)

1.2b Coil and Clip Hose: (For Type A, E & F only)

a. Reserve enough hose from manifold to place mask in box.

b. Begin coiling hose from end of reserved length. Coil hose neatly around 3-4 fingers (approximately 2.5 inches ± 0.25 inch diameter).

c. Stop coiling hose slightly before the bag.

d. This step is optional for Type A. Clip hose with coil retainers. Clip first three coils from manifold. Clip last three coils before lanyard or mask. Clip first three hose bundle to last three hose bundle.

Note: Additional coil retainers may be used to secure a large bundle of hoses. However, the use of retainers must be kept to a minimum. Loose hoses in the middle of the final bundle are acceptable.

e. (For Type A & E only) Temporarily rubber band coil bundle, bag, and mask together.

f. Verify lanyard is not tangled in hose bundle.
Figure 1.1  Test Stop Key Installation/Removal
Figure 1.2  Door Latch/Actuator Release
Figure 1.3  Types A, E & F Only – Preparation of Mask Assembly
Figure 1.4 All Types, Mask Preparation
Figure 1.5 Type A, E & F Coiling of Mask Hose
Figure 1.6 Type A, E & F Bundling of the Mask Assembly
Figure 1.7  Types A and E Only, Mask Assembly in Bundled Configuration
## 1.4 PSU Mask Packing Procedure:

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| A    | • 1 or 2 streamers  
      | • Typically used for attendant seats, cross aisles, lavatories, purser work stations, galleys and crew rests  
      | Prior to rev. K, components of this type were types A and B |
| B    | • Exclusively used under center mounted stowage bins  
      | Prior to rev. K, components of this type were types C and G |
| C    | • Exclusively used under outboard mounted stowage bins  
      | Prior to rev. K, components of this type were type D |
| D    | • Exclusively used under center mounted stowage bins  
      | • 6 streamers  
      | Prior to rev. K, components of this type were type E |
| E    | • Exclusively used under outboard mounted stowage bins  
      | • 3 streamers  
      | Prior to rev. K, components of this type were type F |
| F    | • Exclusively used in overhead crew/attendant rests  
      | • 1 streamer  
      | Prior to rev. K, components of this type were type H |
2. **Type A**

A Type PSU can have the following feature variations:

1. 1 or 2 streamers

2. Top or Side mounted generator (Chemical Only)

3. Doubler assembly with or without hose and streamer clip

Refer to Figures 2.1 through 2.16 for oxygen mask packing procedures.

a. For bench packing, place oxygen box assembly door side up on clean, flat, level surface. Open oxygen box door per Section 1.1.

   Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. The procedure will require one (1) or two (2) people to coil, fold, and place the masks in the box. See Figures 2.1 through 2.7.

b. For initial bench packing, remove protective cap(s) from manifold. Attach loose end of hose to manifold and route mask lanyards and oxygen hoses as shown in Figure 2.8. Ensure the mask lanyards are placed between the coiled hose bundle and the roof of the box. Oxygen hose is to remain free from firing cable.

   For Oxygen Box assembly with hose and streamer clip: (see fig 2.5)

   For chemical generator systems, retain each oxygen hose and streamer in doubler assembly on each end of the box per Figures 2.5 and 2.9.

   For All Oxygen Boxes:

   For chemical generator systems, pass the firing cable through the lanyard rings. Ensure the lanyard rings maintain the same relative position in the box as the masks (See Figure 2.8). Install the firing cable pin into the generator. Ensure the firing cable is below the oxygen hose when the box is in the installed position.

   **WARNING:** DO NOT REMOVE WARNING FLAG FROM GENERATOR. THE GENERATOR WILL BE ARMSED.

   REMOVE WARNING FLAG PRIOR TO FLIGHT.
For gaseous oxygen systems, install each mask; lanyard pintel into the manifold valve. Each pintel must be inserted into the same valve as the mask assembly hose that it is attached to. See Figure 2.10. For Oxygen Box assembly with hose and streamer clip (see fig 2.5), retain each oxygen hose and streamer in doubler assembly on each end of box per Figures 2.5 and 2.9.

WARNING: IF THE LANYARD PINTEL IS NOT INSTALLED INTO THE SAME MANIFOLD VALVE AS THE HOSE IT IS ATTACHED TO, PULLING THE OXYGEN MASK WILL NOT INITIATE OXYGEN FLOW TO THAT MASK.

c. Coil and clip hoses per Section 1.2b. Coil remaining hose in the same direction. See Figures 2.2, 2.3, 2.4, and 2.8 for additional reference.

d. Remove rubber band, if present, from mask assembly.

e. Place folded bag and coiled hose of masks toward roof of box (see Figure 2.11). The open end of the mask should face towards the oxygen box door. Ensure the masks’ lanyards are placed between the coiled hose bundles and roof of box. In addition, ensure the mask lanyard from the mask furthest from the firing cable is fully extended as shown in Figure 2.11.

f. Pack the mask streamer(s) last, just before closing the door. Coil streamer(s) as shown in Figures 2.12 through 2.14. Place each coiled streamer(s) inside the mask it is attached to. Note: If there is only one streamer for the assembly, it may be attached to either mask.

g. Ensure masks, hoses, streamer(s), lanyards and the firing cable are not entangled with each other or with the oxygen manifold or the latch actuator housing. See Figures 2.7 and 2.15 for the completed box assembly.

NOTE: FOR GASEOUS SYSTEMS ONLY – ENSURE ALL PINTELS ARE FULLY SEATED IN MANIFOLD BEFORE PROCEEDING TO NEXT STEP.

CAUTION: TO ENSURE MASK DEPLOYMENT, MASK AND COILS MUST BE UNRESTRAINED BEFORE CLOSING OXYGEN BOX DOOR.

h. For oxygen boxes with a hinged door, reset door latch/actuator by pivoting the lever arm until it engages with the magnet. Close the oxygen box door under light pressure until audible sound and tactile feel ensure positive latching.
For oxygen boxes with a door retained by a lanyard, reset door latch/actuator by pivoting the lever arm until it engages with the magnet. Place hinges in slots, stow door lanyard between masks and door, ensuring door lanyard is not trapped between oxygen box and door or latch actuator and door. Close the oxygen box door under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK FOR MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATE THAT SOME ITEMS ARE BEING PINCHED BETWEEN THE DOOR AND THE ACTUATOR MOUNTING BRACKET. ENSURE THAT A PINCHING CONDITION DOES NOT EXIST.
Figure 2.1 Type A Shown Deployed
Figure 2.2 Type A, Coil Hose
Figure 2.3  Type A, Clip Hose
Figure 2.4  Type A, Coil Remaining Hose and Fold Bag
Figure 2.5  Type A Mask, Bag and Hose Bundle. Note: Ensure Hose and Lanyard in Doubler Assembly Clip Stay in Place
Figure 2.6  Type A, One Mask in Packed Position. Note: Coil and Pack Each Streamer per Figures 2.12, 2.13, and 2.14
Figure 2.7  Type A, Masks in Packed Position.
Figure 2.8  Type A, Chemical Generator Type Shown, Door Removed For Clarity
Figure 2.9  Type A; Chemical Generator Type Shown.  Note:  Lanyard and Hose Must Be Clipped in Same Side as Mask.

Note: Use Minimum Length of streamer cord between oxygen mask and doubler assy.
Figure 2.10  Type A; Packing First Mask
Figure 2.11 Type A; Masks, Streamer(s), and Reservoir Bag Not Shown
Figure 2.12   Type A; Begin Coiling Streamer
Figure 2.13  Type A; Streamer Coiled
Figure 2.14   Type A; Stowing Streamer
Figure 2.15  Type A; Chemical Generator Type Shown

HOSE BUNDLE
CABLE ASSY
(Chemical Generator Type Only)
LANYARD
(Chemical Generator Type Only Shown. Lanyard End Connects to Manifold in Gaseous Type)
HOSE BUNDLE
OXYGEN BOX
MASK
STREAMER, COILED
LATCH/ACTUATOR
LATCH/ACTUATOR HOUSING
STREAMER, COILED
MASK

777 Passenger Oxygen Mask Packing Procedure
3. Type B – Center Oxygen Box Assembly

Refer to Figures 3.1 through 3.26 for oxygen mask packing procedures.

a. Examine each mask assembly for nicks, cuts, abrasions and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material. Note: Normal coiling and packing of mask assemblies may leave a temporary deformation in the mask assembly materials.

For bench packing, place oxygen box assembly door side up on a clean, flat level surface. Open oxygen box door per Section 1.1a.

Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. This procedure will require two (2) people to coil, fold and place the masks in the box. Refer to Figures 3.1 through 3.10.

b. For initial bench packing, remove protective cap(s) from manifold(s). Attach loose end of hose to manifold and route mask lanyards and oxygen hoses as shown in Figures 3.1 through 3.10. Note that only a short portion of the lanyards are shown in these figures for clarity. Use the correct figure for the number of masks to be packed. Ensure the mask lanyards are placed between mask tandem and roof of box. Oxygen hose to remain free from firing cable.

For chemical generator systems, pass the firing cable through lanyard rings. Ensure the lanyard rings maintain the same relative position in the box as the masks. Install the firing cable pin into the generator.

WARNING: DO NOT REMOVE WARNING FLAG FROM THE GENERATOR. THE GENERATOR WILL BE ARMED.

REMOVE WARNING FLAG PRIOR TO FLIGHT.

For gaseous oxygen systems, install each masks' lanyard pintel into the manifold valve. Each pintel must be inserted into the same valve as the mask assembly hose that it is attached to. See Figure 3.11.
WARNING: IF THE LANYARD PINTEL IS NOT INSTALLED INTO THE SAME MANIFOLD VALVE AS THE HOSE IT IS ATTACHED TO, PULLING THE OXYGEN MASK WILL NOT INITIATE OXYGEN FLOW TO THAT MASK.

c. Place headband lengthwise onto open bag. Fold bag into thirds, closing over headband. See section 1.2.

d. Grab all mask hoses from one manifold at a point approximately 6 inches away from the manifold and begin coiling hoses into a 4 to 5 inch diameter bundle. Stop coiling just prior to the point where the lanyards attach to the hoses. Temporarily restrain the hose bundle with a large rubber band. See Figures 3.11, 3.12 and 3.13.

NOTE: No coil retainers are required to secure hoses.

e. Ensure no lanyard is tangled in hose bundle per Figure 3.17.

f. Individually flatten opposite sides of each mask to form two cones sticking out normal to the reservoir bag. With reservoir bags out, arrange masks in tandem. See Figures 3.14 and 3.15.

g. Wrap bags, as a bundle, around the tandem of masks. See Figure 3.16.

h. **418W1010 OXYGEN BOXES AND 418W2010 GASEOUS OXYGEN BOXES ONLY:**

Rotate mask tandem so that the reservoir bag bundle will be next to the manifold and the hoses will be directed toward the hinge end of the box (See figures 3.1 through 3.5 and Figure 3.17). Ensure that the lanyards are not tangled and are positioned behind the mask tandem and against the back, or roof, of the box.

i. **418W2010 CHEMICAL OXYGEN BOXES ONLY:**

Rotate mask tandem so that the reservoir bag bundle will be next to the P-clamp and the hoses will be directed toward the center of the box near the actuator (See figures 3.6 through 3.10). Ensure that the lanyards are not tangled and are positioned behind the mask tandem and against the back, or roof, of the box.

j. **418W1010 OXYGEN BOXES AND 418W2010 GASEOUS OXYGEN BOXES ONLY:**
Position mask tandem parallel to the plastic divider spanning the oxygen box. The pointed cones created by the mask tandem should be facing towards and contacting the actuator wall. See Figure 3.18.

k. **418W2010 CHEMICAL OXYGEN BOXES ONLY:**
   Position mask tandem parallel to the long side of the box. The pointed cones created by the mask tandem should be facing and contacting the outboard wall of the box. See figures 3.6 through 3.10.

l. Remove rubber band from hose bundle.

m. **418W1010 OXYGEN BOXES AND 418W2010 GASEOUS OXYGEN BOXES ONLY:**
   Tuck the hose bundle in the empty space at the hinge end of the box. Ensure hose bundle, lanyards and firing cable are not entangled with each other or with the oxygen manifold or the latch actuator housing. See Figure 3.19.

   NOTE: FOR GASEOUS SYSTEMS ONLY - ENSURE ALL PINTELS ARE FULLY SEATED IN MANIFOLD BEFORE PROCEEDING TO NEXT STEP.

n. **418W2010 CHEMICAL OXYGEN BOXES ONLY:**
   Tuck the hose bundle into the empty space at the center of the oxygen box near the actuator. Ensure hose bundle, lanyards and firing cable are not entangled with each other or with the oxygen manifold or the latch actuator housing. See figures 3.6 through 3.10.

l. **418W1010 OXYGEN BOXES AND 418W2010 GASEOUS OXYGEN BOXES ONLY:**
   For dual-manifold configuration, repeat steps d through k for the second set of masks while holding the first set inside the box. See Figures 3.20 and 3.21.

o. **418W2010 CHEMICAL OXYGEN BOXES ONLY:**
   For dual oxygen generator configuration, repeat steps d through n for the second set of masks. Position the second set of masks parallel to the short side of the box. The pointed cones created by
the mask tandem should be facing the door hinge side of the box. The hoses will be tucked into the space between the actuator and the mask tandem. Hold the first set of masks in place while positioning the second set. See figures 3.6 through 3.10.

CAUTION: FROM AN ALMOST CLOSED POSITION, SWING DOOR APPROXIMATELY 2 INCHES DOWN AND UP TWICE. MASK TANDEM AND HOSE MUST MOVE WITH THE DOOR TO INDICATE MASK FREE FALL. LATCH DOOR AFTER THIS VERIFICATION.

q. Reset door latch/actuator by pivoting the lever arm until it engages with the magnet (see Figure 3.22). Close the oxygen box door under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATE THAT SOME ITEMS ARE BEING PINCHED BETWEEN DOOR AND THE OXYGEN BOX OR BETWEEN THE DOOR AND THE ACTUATOR MOUNTING BRACKET. ENSURE THAT A PINCHING CONDITION DOES NOT EXIST.

r. Release oxygen box assembly (if in the installed position) from the PSU rail into the pivot position per Section 1.1b. Most packing procedures may be verified through the transparent box shell. Repack masks if they do not comply. Return oxygen box assembly to the installed position.
Figure 3.1 Type B, 418W1010, 8 Mask Chemical Generator Type Shown
Figure 3.2 Type B, 418W1010, 6 Mask Chemical Generator Type Shown
Figure 3.3 Type B, 418W1010, 5 Mask Chemical Generator Type Shown
Figure 3.4  Type B, 418W1010, 4 Mask Chemical Type Shown
Figure 3.5 Type B, 418W1010, 3 Mask Chemical Generator Type Shown
Figure 3.6 Type B, 418W2010, 8 Mask Chemical Generator Type Shown
Figure 3.7  Type B, 418W2010, 6 Mask Chemical Generator Type Shown
Figure 3.8 Type B, 418W2010, 5 Mask Chemical Generator Type Shown
Figure 3.9 Type B, 418W2010, 4 Mask Chemical Generator Type Shown
Figure 3.10  Type B, 418W2010, 3 Mask Chemical Generator Type Shown
Figure 3.11  Type B, Ensure Separation of Lanyards, Hoses and Bags, Gaseous Manifold and Pintel Type Shown
Figure 3.12  Type B, Begin Coiling Hoses Together
Figure 3.13  Type B, Rubber Band Coiled Hoses for Interim, Ensure Lanyards are Untangled
Figure 3.14  Type B, Preparation of Mask Tandem
Figure 3.15  Type B, Mask Tandem
Figure 3.16  Type B, Fold Bags Around Mask Tandem
Figure 3.17  Type B, Rotate Mask Tandem Into Correct Orientation to Ensure Untangled Lanyards
Figure 3.18  Type B, 418W1010, Mask Tandem Oriented and in Place. Note: Lanyards between Mask Tandem and Roof of Box
Figure 3.19  Type B, 418W1010, Stow Hose Coil (Rubber Band Removed) Mask Packing
Complete This Side
Figure 3.20  Type B, 418W1010, Complete Mask Packing for the Other Side
Figure 3.21  Type B, 418W1010, Mask Packing Complete
Figure 3.22  Type B, 418W2010, Mask Tandem Oriented and in Place.
Figure 3.23 Type B, 418W2010, Stow Hose Coil (Rubber Band Removed) Mask Packing Complete This Side.
Figure 3.24  Type B, 418W2010, Complete Mask Packing For Other Side
Figure 3.25  Type B, 418W2010, Mask Packing Complete
Figure 3.26  Type C, D, E, F - Reset Latch/Actuator.
4. Type C – Outboard Oxygen Box Assembly

Refer to Figures 4.1 through 4.11 for oxygen mask packing procedures.

a. Examine each mask assembly for nicks, cuts, abrasions and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material. Note: Normal coiling and packing of mask assemblies may leave a temporary deformation in the mask assembly materials.

For bench packing, place oxygen box assembly door side up on a clean, flat level surface. Open oxygen box door per Section 1.1.

Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. This procedure will require one (1) person to coil, fold and place the masks in the box. Refer to Figures 4.4 through 4.11.

b. For initial bench packing, remove protective cap(s) from manifold. Attach loose end of hose to manifold and route mask lanyards and oxygen hoses as shown in Figures 4.1 through 4.3. Note that only a short portion of the lanyards are shown in these figures for clarity. Use the correct figure for the number of masks to be packed. Ensure the mask lanyards are placed between mask tandem and roof of box.

For chemical generator systems, ensure the firing cable is routed between the oxygen hoses and oxygen box wall. Pass the firing cable through lanyard rings. Ensure the lanyards rings maintain the same relative position in the box as the masks. See Figures 4.1 through 4.3. Install the firing cable pin into the generator.

**WARNING:** DO NOT REMOVE WARNING FLAG FROM THE GENERATOR. THE GENERATOR WILL BE ARMED.

REMOVE WARNING FLAG PRIOR TO FLIGHT.

For gaseous oxygen systems, install each masks' lanyard pintel into the manifold valve. Each pintel must be inserted into the same valve as the mask assembly hose that it is attached to. See Figure 4.4.

**WARNING:** IF THE LANYARD PINTEL IS NOT INSTALLED INTO THE SAME MANIFOLD VALVE AS THE HOSE IT IS
ATTACHED TO, PULLING THE OXYGEN MASK WILL NOT INITIATE OXYGEN FLOW TO THAT MASK.

c. Place headband lengthwise onto open bag. Fold bag into thirds, closing over headband. See Figure 4.5.

d. With reservoir bags down, arrange masks in tandem. Select first mask located closest to the hinge side of box. With oxygen hose stretched, move mask up approximately 2 inches to create slack in lanyard (see Figure 4.6). Place the first mask's base inside the next mask's facepiece with the first mask's hose trapped in between the two masks (see Figure 4.6). Repeat these steps for the remaining masks. Note: The final mask in the tandem will trap two hoses, its own hose and the hose of the preceding mask, as shown in Figure 4.7.

NOTE: No coil retainers are required to secure hoses.

CAUTION: Do not over compress the mask tandem when assembling or installing into the oxygen box. Compress only enough to allow the masks to stack and the bundle to fit into the box. Over compression can cause marks in the mask hose in the area where the hose is trapped between the two mask cups. If, upon deployment, marks are discovered in this area of the mask hose, see Section 8.1 for inspection criteria.

e. Pull hoses, lanyards, and reservoir bags downward to prevent them from entangling. Grab lanyards and portions of hoses above mask tandem away from the manifold and above the mask tandem about to be positioned. See Figure 4.8. Place mask tandem against the wall opposite of the manifold with the open end of the facepiece towards hinge side of box (see above Caution and Figure 4.9).

CAUTION: ENSURE THAT THE HOSES AND LANYARDS ARE NOT TANGLED WITH ONE ANOTHER AND THAT THE MASK FACEPIECE AGAINST THE HINGE SIDE WALL IS NOT TRAPPED BEHIND THE SUPPLY LINE HOSE. THE RESERVOIR BAGS AND REMAINING PORTION OF HOSES SHOULD STILL BE HANGING BELOW THE MASK TANDEM.

f. As a bundle, fold the reservoir bags flat towards the manifold side of the box, away from the mask tandem and occupying the space between the hinge wall and the actuator housing. The hoses from
the bags are directed towards the manifold side of the box. See Figures 4.9 and 4.10.

g. Tuck all the remaining bundled hose in the open space close to the manifold as necessary. Do not twist or coil bundled hose while stowing in upper cavity close to the manifold. Do not stuff hose or bag close to the actuator housing. See Figure 4.11.

h. Ensure masks, hose bundle, lanyards and firing cable are not entangled with each other or with the oxygen manifold. No portion of the mask assemblies may be between the actuator and the roof of the oxygen box before closing door.

NOTE: FOR GASEOUS SYSTEMS ONLY - ENSURE ALL PINTELS ARE FULLY SEATED IN MANIFOLD BEFORE PROCEEDING TO NEXT STEP.

CAUTION: FROM AN ALMOST CLOSED POSITION, SWING DOOR APPROXIMATELY 2 INCHES DOWN AND UP TWICE. MASK TANDEM AND HOSE MUST MOVE WITH THE DOOR TO INDICATE MASK FREE FALL. LATCH DOOR AFTER THIS VERIFICATION.

i. Reset door latch/actuator by pivoting the lever arm until it engages with the magnet. See Figure 3.26. Close the oxygen box door under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATE THAT SOME ITEMS ARE BEING PINCHED BETWEEN DOOR AND THE OXYGEN BOX OR BETWEEN THE DOOR AND THE ACTUATOR MOUNTING BRACKET. ENSURE THAT A PINCHING CONDITION DOES NOT EXIST.

j. Release oxygen box assembly (if in the installed position) from the PSU rail into the pivot position per Section 1.1b. Most packing procedures may be verified through the transparent box shell. Repack masks if they do not comply. Return oxygen box assembly to the installed position.
Figure 4.1 Type C, 2 Mask Chemical Generator Type Shown
Figure 4.2  Type C, 3 Mask Chemical Generator Type Shown
Figure 4.3 Type C, 4 Mask Chemical Generator Type Shown
Figure 4.4 Type C, Preparation of Mask Assembly, Separate Masks Ensuring Lanyards are Connected to the Same Valve as the Mask Hose it is Connected To
Figure 4.5  Type C, Preparation of Mask Assembly, Fold Bag in Thirds Around Headband
Figure 4.6  Type C, Place First Mask's Hose Between First and Second Mask in Mask Tandem. Note: With Hose Stretched, Move Mask Up Approximately 2 Inches to Have Slack in Lanyard
Figure 4.7 Type C, Place Last Two Hoses Between Last Two Masks in Mask Tandem. Note: With Hose Stretched, Move Mask Up Approximately 2 Inches to Have Slack in Lanyard
Figure 4.8  Type C, Place Lanyards Between Mask Tandem and Roof of Box., Ensure Untangled Lanyards
Figure 4.9  Type C, Place Mask Tandem With Open End of Face-piece Towards Hinge Side of Box. Fold Bags Toward Manifold Side Away From Mask Tandem
Figure 4.10  Type C, Place Bags in Space Between Hinge Wall and Actuator Housing Towards Manifold
Figure 4.11  Type C, Tuck Remaining Hose Bundle in Space Close To Manifold, Mask Packing Completed
5. Type D – Center Oxygen Box with Streamers

Refer to Figures 5.1 through 5.11 for oxygen mask packing procedures.

a. Examine each mask assembly for nicks, cuts abrasions and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material.

Note: Normal coiling and packing of mask assemblies may leave a temporary deformation in mask assembly materials.

For bench packing, place oxygen box assembly door side up on a clean, flat level surface. Open oxygen box door per Section 1.1.

Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. This procedure will require two people to coil, fold and place the masks in the box. Refer to Figures 5.1 through 5.7.

b. For initial bench packing, remove protective cap(s) from manifolds. Attach loose end of hose to manifold and route mask lanyards and oxygen hoses as shown in Figure 5.1. Note that only a short portion of these lanyards are shown in the figure for clarity. Ensure the mask lanyards are placed between mask and roof of box. Oxygen hoses to remain free from firing cable.

Pass the firing cable pin through lanyard rings. Ensure the lanyard rings maintain the same relative position in the box as the masks. Install the firing cable pin into the generator.

WARNING: DO NOT REMOVE WARNING FLAG FROM THE GENERATOR. THE GENERATOR WILL BE ARMED. REMOVE WARNING FLAG PRIOR TO FLIGHT.

c. Place headband lengthwise onto open bag. Fold bag into thirds, closing over headband.

d. Grab all mask hoses from one manifold at a point approximately six inches away from the manifold and begin coiling hoses into a 4 to 5 inch diameter bundle. Stop coiling approximately nine inches from the end of the hose. Temporarily restrain the hose bundle with a large rubber band. See Figures 5.3, 5.4 and 5.5.

e. Group all three masks in a triangular fashion, with the bags facing inwards. Mask arrangement shown on Figures 5.6 and 5.7.
f. Reference Figures 5.1 and 5.2. Position the mask triangle on the actuator side of the box. Lay the reservoir bags flat against the roof of the oxygen box. Place the coiled hoses on the hinge side of the box between the reservoir bags and the door. Make sure the masks face will lay flat against the box door upon closure. Remove rubber band from coiled hoses.

g. For initial bench packing, pack the mask streamer prior to closing the door. Place each coiled streamer inside the mask it is attached to. Reference Figures 5.9, 5.10 and 5.11.

h. For airplane packing, close door two to three inches from the locked position, make sure masks rest upon door panel. Pack mask streamers as shown in Figures 5.8 through 5.11. Start by packing the streamer attached to the mask closest to the hinge side of the oxygen box. Place each streamer within the corresponding mask and the door panel.

i. Ensure masks, hoses, lanyards, streamers, and firing cable are not entangled with each other or with the oxygen manifold or the latch actuator housing. See Figure 5.1 for completed box assembly.

CAUTION: TO ENSURE MASK DEPLOYMENT MASK AND COILS MUST BE UNRESTRAINED BEFORE CLOSING OXYGEN BOX DOOR.

j. Reset door latch/actuator by pivoting the lever arm until it engages with the magnet. Close the oxygen box doors under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATED THAT SOME ITEMS ARE BEING PINCHED BETWEEN THE DOOR AND THE OXYGEN BOX OR BETWEEN THE DOOR AND THE ACTUATOR MOUNTING BRACKET. ENSURE A PINching CONDITION DOES NOT EXIST.
Figure 5.1 Type D, 6 Mask Chemical Generator Type Shown
Figure 5.2  Type D, Hose Bundle and Lanyards Not Shown, Chemical Generator Type Shown
Figure 5.3  Type D, Ensure Separation of Lanyards, Hoses, Bags and Streamers
Figure 5.4 Type D, Begin Coiling Hoses Together
Figure 5.5  Type D, Rubber Band Coiled Hoses for Interim, Ensure Lanyards are Untangled
Figure 5.6 Type D, Group Masks in a Triangular Fashion
Figure 5.7  Type D, Mask Triangle
Figure 5.8  Type D, Streamers Prepared for Packing
Figure 5.9 Type D, Begin Coiling Streamer
Figure 5.10  Type D, Streamer Coiled
Figure 5.11  Type D, Streamer Placed Within Corresponding Mask
6. **Type E**

Refer to Figures 6.1 through 6.9 for oxygen mask packing procedures.

a. Examine each mask assembly for nicks, cuts, abrasions and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material.

Note: Normal coiling and packing of mask assemblies may leave a temporary deformation in mask assembly materials.

For bench packing, place oxygen box assembly door side up on a clean, flat level surface. Open oxygen box door per Section 1.1b.

Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. This procedure will require two people to coil, fold and place the masks in the box.

b. For initial bench packing, remove protective cap(s) from manifold. Attach loose end of hose to manifold and route mask lanyards and oxygen hoses as shown in Figure 6.3. Ensure the mask lanyards are placed between the coiled hose bundle and the roof of the box. Oxygen hoses to remain free from firing cable.

Pass the firing cable pin through lanyard rings. Ensure the lanyard rings maintain the same relative position in the box as the masks. See Figure 6.1. Install the firing cable pin into the generator.

**WARNING:** DO NOT REMOVE WARNING FLAG FROM THE GENERATOR. THE GENERATOR WILL BE ARMED. REMOVE WARNING FLAG PRIOR TO FLIGHT.

c. Coil and clip hose per Section 1.2b, additional reference Figure 6.4. Coil remaining hoses in the same direction and fold reservoir bag per Section 1.2a.

d. Remove rubber band, if present, from mask assembly.

e. Place folded bag and coiled hose of masks toward roof of box, while maintaining the order of the masks as on the actuator cable. The open end of the mask should face towards the oxygen box door. Ensure the mask lanyards are placed between coiled hose bundle and roof of box. Reference Figure 6.2 and 6.3.
f. For bench packing, make sure the streamers are not tangled and pack the mask streamer. Coil streamer as shown in Figures 6.6, 6.7 and 6.8. Place each coiled streamer within the mask it is attached to.

g. For airplane packing, begin to close door and stop two inches before actuator latch, leaving streamers neatly hung the outside oxygen box. Coil streamer as shown in Figures 6.5 through 6.9. Begin by packing the streamer that is attached to the mask closest to the hinge side of the oxygen box. Place each coiled streamer between the mask it is attached to and the oxygen door panel. Make certain that the masks lay flat against the oxygen door panel upon closure.

h. Ensure masks, hoses, lanyards, streamers, and firing cable are not entangled with each other or with the oxygen manifold or the latch actuator housing. See Figures 6.2 and 6.3 for completed box assembly.

CAUTION: TO ENSURE MASK DEPLOYMENT, MASK AND COILS MUST BE UNRESTRAINED BEFORE CLOSING OXYGEN BOX DOOR.

i. Reset door latch/actuator by pivoting the lever arm until it engages with the magnet. Close the oxygen box door under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATED THAT SOME ITEMS ARE BEING PINCHED BETWEEN THE DOOR AND THE OXYGEN BOX OR BETWEEN THE DOOR AND THE ACTUATOR MOUNTING BRACKET. ENSURE A PINCHING CONDITION DOES NOT EXIST.
Figure 6.1 Type E, Chemical Generator Type Shown
Figure 6.2 Type E, Lanyards Not Shown
Figure 6.3 Type E, Masks and Streamers Not Shown

- OXYGEN BOX
- HOSE BUNDLE
- LATCH/ACTUATOR
- LATCH ACTUATOR HOUSING
- LANYARD CABLE ASSEMBLY
Figure 6.4  Type E, Coil Hose
Figure 6.5 Type E, Streamers Prepared for Packing
Figure 6.6  Type E, Begin Coiling Streamer
Figure 6.8  Type E, Streamer Placed Within Corresponding Mask
Figure 6.9  Type E, Masks in Packed Position
7. **Type F**

Refer to Figures 1.4 through 1.6 and Figures 7.1 through 7.4 for oxygen mask packing procedures.

a. Examine each mask assembly for nicks, cuts, abrasions and chemical or heat damage. Replace any damaged or defective mask assembly. Remove and discard any protective packing material.

For bench packing, place oxygen box assembly door side up on a clean, flat level surface. Open oxygen box door per Section 1.

Note: When packing masks on the airplane, the oxygen box will remain in the installed position with the door open. This procedure may require two people to coil, fold and place the masks in the box.

b. Place headstrap lengthwise onto open bag and fold the bag into thirds, closing over headstrap. Refer to Figure 1.4.

**WARNING: DO NOT FOLD THE MASK LANYARD IN THE RESERVOIR BAG.**

c. Refer to Figure 1.5 for hose coiling. Attach a coil retainer to the hose approximately 2.5 inches from the end of the bag. Begin coiling the hose in a counter-clockwise direction. The coils of the hose should be approximately 2.25 inches in diameter. Attach the second coil retainer two-thirds through the first loop, and the third retainer one-third through the third loop. Attach the coil to the coil retainer each time it passes until all the clips on the coil retainer are utilized. Stop coiling hose when 16 inches remain, which is needed to route to the generator.

d. Place the folded reservoir bag up the side of the mask and fold into the mask cup. The top of the bag (bag to hose connection) should be approximately centered in the bottom of the mask cup. Refer to Figure 1.6.

e. For chemical systems only, route the hoses along the roof of the oxygen box and through the grommets in the oxygen box wall. There must be enough hose to reach the generator manifold. If there is not enough hose, uncoil more from the mask cup. Also, the minimum bend radius for the hose is 0.05 inches to ensure proper oxygen flow.
f. For chemical systems only, remove protective cap(s) from the generator manifold. A minimum of 0.50 inches engagement is required when installing the hose over a generator manifold nipple. One hose must be used for every available outlet, and oxygen hoses are to remain free from firing cables.

g. For chemical systems only, check the indication strip on the side of the generator. If it has changed from orange to black, the generator has been fired and must be replaced. Also, if the release pin has been pulled from the generator firing mechanism and the warning flag/safety pin has been removed, the generator must be replaced. Do not remove the safety flag – this will be done after installation on the aircraft.

WARNING: DO NOT REMOVE WARNING FLAG FROM THE GENERATOR, REMOVAL OF WARNING FLAG WILL ARM THE GENERATOR. REMOVE WARNING FLAG PRIOR TO FLIGHT.

h. For chemical systems only, install lanyard over the firing pin as shown in Figure 7.2. Ensure the lanyard rings maintain the same relative position in the box as the masks. Crimp the eye of the pin closed with the last lanyard ring held captive. Install firing pin into oxygen generator. Prepared masks are now ready for packing. See figure 7.3. Position mask assemblies in oxygen box. See figure 7.1.

i. For gaseous systems only, place masks in oxygen box as shown in figure 7.1. Ensure that lanyards and hoses are not tangled for proper mask deployment. Coil excess hose length in with the retained coil inside the mask cup. Route mask lanyards between masks and box as shown in figure 7.1. Route hoses and lanyards per figure 7.1.

j. For gaseous systems only, remove protective caps from the manifold outlets. Attach mask number 1 lanyard and hose to the manifold. Be sure that both the lanyard and hose for the mask are installed together on the same manifold outlet. A minimum of .50 inch engagement is required for hose attachment. Attach remaining hoses in the same manner.

WARNING: IF THE LANYARD PINTEL IS NOT INSTALLED INTO THE SAME MANIFOLD VALVE AS THE HOSE IT IS ATTACHED TO, PULLING THE OXYGEN MASK WILL NOT INITIATE OXYGEN FLOW TO THAT MASK.
k. For gaseous system only, just before closing the door place the streamers outboard of the door hinge on top of the foam block to ensure proper deployment of the streamer. See figure 7.1.

l. For chemical system only, just before closing the door place the streamer for the inboard mask (mask closest to the maintenance lanyard) opposite the door hinge on top of the foam block to ensure proper deployment of the streamer. See figure 7.1.

m. Reset the door latch actuator by pivoting the latch lever arm until in engages with the magnet. Close the oxygen door under light pressure until audible sound and tactile feel ensure positive latching.

CAUTION: VISUALLY CHECK MISFAIRING OF DOOR TO BOX. MISFAIRED DOOR MAY INDICATE THAT SOME ITEMS ARE BEING PINCHED BETWEEN THE DOOR AND THE OXYGEN BOX. ENSURE THAT A PINCHING CONDITION DOES NOT EXIST.
Figure 7.1 Type F, Chemical and Gaseous Types Shown
Figure 7.2 Type F, Lanyard, Release Pin, Generator Assembly

PLACE LANYARDS OVER PIN AS SHOWN. CRIMP CLOSED THE EYE OF THE PIN WITH THE LAST LANYARD RING HELD CAPTIVE.
Figure 7.3  Type F, Prepared Mask Assemblies Ready for Packing
Figure 7.4 Type F, Packed Mask Assemblies
777 Passenger Oxygen Mask Packing Procedure
8. **Mask Packing Inspection Techniques for Installed Passenger Service Units**

8.1 **Mask Assembly Inspection Criteria**

After deployment of the oxygen mask assemblies, the units must be inspected prior to repack. Inspection criteria include:

Examination of the mask assembly for contamination (dirt, grease, oils or any other contaminant). Cleaning, based on the Customer’s Maintenance Manual, may remove any contamination. If not, replacement is required.

Examination of the mask assembly for damage or deterioration. Any damage or deterioration requires mask assembly replacement.

Examination of the mask hose for secure attachment to the oxygen box. A pull on the mask cup with a force of 20 pounds for 3 seconds should have no impact on the connection.

Examination of the mask hose for flexibility and fluids in or on the hose. A lack of flexibility or evidence of fluids in or on the mask hose can be an indicator of diffusion of the phthalate plasticizer used to make the material flexible. This condition requires mask assembly replacement.

Examination of the mask hose for damage or discoloration. Any evidence of damage or deterioration on the mask hose requires replacement of the hose.

Examination of the mask hose for pinching or kinking. Evidence of pinching or kinking requires further examination. Severe kinking and pinching will discolor the mask hose and collapse the tube. If a hose has been pinched or kinked to a point of showing discoloration or crushing of the tube, that hose requires replacement. If there is no evidence that the hose has been cut, discolored, crushed to the point of restricting oxygen flow, the hose is acceptable for re-use.

8.2 **Type A (Attendant, Lavatory, Purser Station, and Oxygen Box Assemblies)**

Inspection suggestions for 418W1080 oxygen box assemblies

The bench packing and re-packing requirements for 418W1080 oxygen box assemblies are outlined in Sections 1 and 2. Once the oxygen box
assembly has been installed in the airplane, the quality of the mask packing may be inspected by performing a series of visual checks. These checks are not all-inclusive and are not a substitute for the requirements of this document.

a. Partially open the oxygen box assembly door. Avoid deployment of the oxygen masks.

b. Verify that masks, hoses, streamers, lanyards are not entangled with each other or with the oxygen manifold or the latch actuator housing.

c. Verify properly folded streamers are between the masks and the door. Streamers must be first to fall out.

d. Verify the masks are packed properly. (See Figure 2.7)

e. Verify that hoses and lanyards are retained in doubler assemblies on each end of box, if applicable. (See Figures 2.5 and 2.9)

*Inspection per step “f” applies to gaseous oxygen systems ONLY -*

f. Verify that each lanyard pintel is inserted into the manifold at the opening provided. (See Figure 3.11)

*Inspection per step “g” and “h” applies to chemical oxygen systems ONLY -*

g. Verify that the firing cable is passed through lanyard rings. (See Figure 2.11).

h. Verify that the firing cable pin is installed into the generator. (See Figure 2.11)

i. Raise and lower the oxygen box door to verify the oxygen masks are resting on the door. (See Figure 6.9)

j. Close the oxygen box door.

k. Visually check for misfairing of door to box (misfaired door indicates pinched items).
8.3 Type B and C (Center and Outboard Oxygen Box Assemblies)

Inspection Suggestions for 418W1010, 418W2010 and 418W1015 Oxygen Box Assemblies.

The bench packing and re-packing requirements for 418W1010, 418W2010 and 418W1015 oxygen box assemblies are outlined in Sections 3 and 4. Once the oxygen box assembly has been installed in the airplane, the quality of the mask packing may be inspected by performing a series of visual checks. These checks are not all-inclusive and are not a substitute for the requirements of this document.

a. Open the oxygen box assembly to the maintenance position.

b. Verify that masks, hoses and lanyards are not entangled with each other or with the oxygen manifold or the latch actuator housing.

c. Verify that the lanyards are in the same sequence in the box as the masks. (See Figures 3.1 - 3.10 and 4.1 - 4.3).

d. Verify the masks are packed properly. (See Figures 3.1 - 3.10 and 4.1 - 4.3).

**Inspection per step “f” applies to Type B boxes ONLY** -

f. 418W1010

Verify that mask tandem is placed against the wall opposite of the manifold with the open end of the facepiece towards hinge side of box. (See Figure 4.9)

418W2010

Verify the mask tandem is placed parallel to the long side of the box. The pointed cones created by the mask tandem should be facing and contacting the outboard wall of the box. The second mask tandem is placed parallel to the short side of the box. The pointed cones created by the mask tandem should be facing the door hinge side of the box.

**Inspection per step “g” applies to gaseous oxygen systems ONLY** -
g. Verify that each lanyard pintel is inserted into the manifold at the opening provided.

**Inspection per step “h” and “i” applies to chemical oxygen systems ONLY** -

h. Verify that the firing cable is passed through lanyard rings. (See Figures 3.1 – 3.10 and 4.1 - 4.3)

i. Verify that the firing cable pin is installed into the generator.

j. Return oxygen box assembly to installed position.

k. Partially open the oxygen box assembly door. Avoid deployment of the oxygen masks.

l. Raise and lower the oxygen box door to verify the oxygen masks are resting on the door. (See Figure 6.9)

m. Close the oxygen box door.

n. Visually check for misfairing of door to box (misfaired door indicates pinched items.)

**8.4 Type D and E (Center and Outboard Oxygen Box Assemblies)**

Inspection Suggestions for 418W1010 and 418W1015 Oxygen Box Assemblies.

The bench packing and re-packing requirements for 418W1010 and 418W1015 oxygen box assemblies are outlined in Sections 5 and 6. Once the oxygen box assembly has been installed in the airplane, the quality of the mask packing may be inspected by performing a series of visual checks. These checks are not all-inclusive and are not a substitute for the requirements of this document.

a. Open the oxygen box assembly to the maintenance position.

b. Verify that masks, hoses, streamers, lanyards are not entangled with each other or with the oxygen manifold or the latch actuator housing.

c. Verify properly folded streamers are between the masks and the door. Streamers must be first to fall out.

d. Verify the masks are packed properly. (See Figures 5.1 and 6.1).
e. Verify that the lanyards are in the same sequence in the box as the masks. (See Figures 5.1 and 6.1 – 6.3).

**Inspection per step “f” applies to gaseous oxygen systems ONLY** -

f. Verify that each lanyard pintel is inserted into the manifold at the opening provided.

**Inspection per “g” and “h” applies to chemical oxygen systems ONLY** -

g. Verify that the firing cable is passed through lanyard rings. (See Figures 5.1 and 6.1 – 6.3).

h. Verify that the firing cable pin is installed into the generator.

i. Return oxygen box assembly to the installed position.

j. Partially open the oxygen box assembly door. Avoid deployment of the oxygen masks.

k. Raise and lower the oxygen box door to verify the oxygen masks are resting on the door. (See Figure 6.9).

l. Close the oxygen box door.

m. Visually check for misfairing of door to box (misfaired door indicates pinched items).

**8.5 Type F (Crew/Attendant Rest Oxygen Box Assembly)**

Inspection suggestions for 9801050 oxygen box assemblies.

The bench packing and re-packing requirements for 9801050 oxygen box assemblies are outlined in Section 7. Once the oxygen box assembly has been installed in the airplane, the quality of the mask packing may be inspected by performing a series of visual checks. These checks are not all-inclusive and are not a substitute for the requirements of this document.

a. Open the oxygen box assembly to the maintenance position.

b. Verify that masks, hoses, and lanyards are not entangled with each other or with the oxygen manifold.

c. Verify that the lanyards are in the same sequence in the box as the masks. (See Figure 7.1).
d. Verify the masks are packed properly (See Figure 7.4).

e. Verify that the firing cable passes through the lanyard rings. (See Figure 7.2).

f. Verify that the firing cable pin is installed into the generator.

g. Return oxygen box assembly to installed position.

h. Partially open the oxygen box assembly door. Avoid deployment of the oxygen masks.

i. Raise and lower oxygen door to verify the oxygen masks are resting on the door.

j. Close the oxygen box door.

k. Visually check for misfairing of door to box. (Misfaired door indicates pinched items)
9. Mask Deployment Criteria for Quality Assurance Inspections

a. The following defines the minimum mask drop distance for the designated oxygen box for Quality Assurance inspection purposes:

   The minimum oxygen mask drop distance for Type B, 418W1010, chemical system oxygen boxes is 24.0 inches. See Figure 9.1.

   The minimum oxygen mask drop distance for Type B, 418W1010, gaseous system oxygen boxes is 25.0 inches. See Figure 9.2.

   The minimum oxygen mask drop distance for Type B, 418W2010, chemical system oxygen boxes is 17.5 inches. See Figure 9.3.

   The minimum oxygen mask drop distance for Type C chemical system oxygen boxes is 15.5 inches. See Figure 9.4.

   The minimum oxygen mask drop distance for Type C gaseous system oxygen boxes is 15.5 inches. See Figure 9.5.

   The minimum streamer drop distance for all Type A, D, E and F oxygen box assemblies is to its full length and the mask drop height is not critical.

b. If streamers are not present, the mask must deploy within approximately 5 seconds.

c. After deployment, lanyards and/or hoses must not be tangled on any component of the box, such as manifold, actuator/housing, firing cable or spring plate. Minor tangling between hoses and/or lanyards is acceptable.

d. Mild jostling of deployed masks (simulating standard in-flight conditions) is permitted to encourage undeployed or partially deployed masks of the same oxygen box to fall, provided at least one mask is deployed according to the above criteria.

e. If mask box door does not open, deployment cannot be evaluated.

f. Masks may remain nested after deployment.
Mask drop is measured vertically from the height of the firing cable attach screw to the bottom of the oxygen mask. The oxygen box assembly is in the aircraft installed position.
Mask drop is measured vertically from the height of the manifold attach screw to the bottom of the oxygen mask. The oxygen box assembly is in the aircraft installed position.
Figure 9.3  Type B, 418W2010, Chemical System Oxygen Box

Mask drop is measured vertically from the height of the firing cable attach screw to the bottom of the oxygen mask. The oxygen box assembly is in the aircraft installed position.
Mask drop is measured vertically from the height of the firing cable attach screw to the bottom of the oxygen mask. The oxygen box assembly is in the aircraft installed position.
Figure 9.5 Type C Gaseous System Oxygen Box

Mask drop is measured vertically from the height of the manifold attach screw to the bottom of the oxygen mask. The oxygen box assembly is in the aircraft installed position.
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**Revision Record**

**Revision Letter**

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**Changes in this Revision**

Document revised to provide clarification on existing procedures and to implement a revised center mask packing method. Revised Sections 1.0, 2.1, 2.2, 4.1.1, 4.1.3, 4.1.7, 4.2.1, 4.2.5, 4.2.8, 4.3.1, 4.3.5, 4.3.7, 4.4.1, 4.4.7. Revised Figures 10, 14 and 18 through 34.

**Signatures**

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<th>AUTHOR:</th>
<th>D. Blaske</th>
<th>B-P4HU</th>
<th>9-14-94</th>
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**Revision Letter**

**B**

**Changes in this Revision**
PRR61528 - Document revised to provide additional clarification of existing procedures including color photographs and revised figures. Additionally, Center and outboard mask packing procedures have been completely rewritten. Color photographs and revised figures are included to support this change.

**Signatures**

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<th>R. C. Aquino</th>
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C

Changes in this Revision

PRR61528 Supplemental – Document revised to modify Center and Outboard mask packing procedures including figures and color photos.

Signatures

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**D**

Changes in this Revision

PRR61551 – Document revised to modify Attendant/Purser Box mask packing procedures including figures and colored pictures.

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E

Changes in this Revision

Document revised to clarify procedures and to implement new procedures. Renumbered document.

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APPROVAL: L. DeKay
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**F**

Changes in this Revision


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**G**

Changes in this Revision

PPR95000 – Sections 6.0 Mask Packing Inspection Techniques for installed Passenger Service Units and 7.0 Mask Deployment Criteria for QA Inspections added.

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<th>J.G. (Skip) Reedy</th>
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Changes in this Revision

PRR95000 – Revised Figure 79 to correct the picture and dimension.
Revised page numbers for Figures 79 through 82 from 5-83, 5-84, 5-85 and 5-86 to 7-2, 7-3, 7-4 and 7-5 respectively.

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**Changes in this Revision**

MC2529MK7270, MC2529MK7271 Supplemental
Incorporated ADRN2H through 5H. Added mask packing procedures for type G and type H Oxygen Box Assemblies.
Reformatted and repaginated entire document

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Changes in this Revision

LCCT-FG00985 – Revised section 4.2b for cable routing. Prod Info: Airplanes/parts must comply. Airplanes completed per NCR N1770002385-P are satisfactory. Chng Resp: R. Thill, 425 266-5732

PRR95000 - Revised sections 4.1b, 4.2b, 4.3b and 4.4b for pintel routing. Prod Info: Airplanes/parts satisfactory. Chng Resp: R. Thill, 425 266-5732

Signatures

AUTHOR: Signature on File U-M2DP 5-1-02
Rodney V. Thill, 777 PSU Engineer Org. Number Date

APPROVAL: Signature on File U-MX00 5-2-02
Victor L. Byrnes, 777 PSU Manager Org. Number Date

DOCUMENT RELEASE: Org. Number Date
Revision Letter K

Changes in this Revision

PRR95000 – Revised page numbering format. Combined sections A and B into section A. Combined sections C and G into section B, revised section D to section C, revised section E to section D, revised section F to E, revised section H to F. Mask packing procedure for types G and H was revised. Prod Info: Airplanes/parts satisfactory. Chng Resp: R. Thill, 425 266-5732

Signatures

AUTHOR: Rodney V. Thill, 777 PSU Engineer
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APPROVAL: W. S. Randolph, 777 PSU Manager
U-M200 11-2-02

DOCUMENT RELEASE: 

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L

Changes in this Revision

Basic Release – Added additional info to Mask Pack Type Table and updated Sections B and F to add information on gaseous oxygen box.

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Changes in this Revision
PRR950000– Added caution note to Section 4D and mask assembly inspection criteria in Section 8.1. Updated Table of Contents.
Reason: Design Improvement
Prod Info: Airplanes/Parts Satisfactory
Mfg Info: No OSAR, Group 7576, M. Bostrom, 266-4020

Signatures

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APPROVAL: 
C. Dufrane, 777 Linings Manager

DOCUMENT RELEASE: 
Ngoc H. Bu

U-M2DP Org. Number Date
U-M200 Org. Number Date
G-823P Org. Number Date

REV M D418W001 Revision Record-13
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