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BOMBARDIER

Toronto (de Havilland)

PROPRIETARY INFORMATION

PPS 13.35

PRODUCTION PROCESS STANDARD

Re-Packing of Oxygen Masks for the Automatic Presentation Passenger Oxygen System (APPOS)

- Issue 2
- This standard supersedes PPS 13.35, Issue 1.
 - Vertical lines in the left hand margin indicate changes over the previous issue.
 - Direct PPS related questions to PPS.Group@aero.bombardier.com or (416) 375-4365.
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Quality

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1 Scope

- 1.1 This Production Process Standard (PPS) specifies the procedure and requirements for re-packing of oxygen masks in Automatic Presentation Passenger Oxygen System (APPOS) assemblies.
 - 1.1.1 This PPS complements the engineering drawings that specify its use as an authorized instruction and the procedure specified must be followed to ensure compliance with all applicable specifications. In general, if this PPS conflicts with the engineering drawing, follow the engineering drawing. The requirements specified in this PPS are necessary to fulfil the engineering design and reliability objectives.
 - 1.1.2 Refer to [PPS 13.26](#) for the subcontractor provisions applicable to this PPS.
 - 1.1.3 Procedure or requirements specified in a Bombardier BAPS, MPS, LES or P. Spec. **do not** supersede the procedure or requirements specified in this PPS. Similarly, the procedure and requirements specified in this PPS are not applicable when use of a BAPS, MPS, LES or P. Spec. is specified.

2 Hazardous Materials

- 2.1 Before receipt at Bombardier Toronto (de Havilland), all materials must be approved and assigned Material Safety Data Sheet (MSDS) numbers by the Bombardier Toronto (de Havilland) Environment, Health and Safety Department. Refer to the manufacturer's MSDS for specific safety data on any of the materials specified in this PPS. If the MSDS is not available, contact the Bombardier Toronto (de Havilland) Environment, Health and Safety Department.

3 References

- 3.1 [PPS 13.26](#) - General Subcontractor Provisions.

4 Materials and Equipment

4.1 Materials

- 4.1.1 No material specified.

4.2 Equipment

- 4.2.1 Cotton gloves (e.g., DSC 422-1). Use only **clean** cotton gloves when handling oxygen system components (including oxygen masks).

5 Procedure

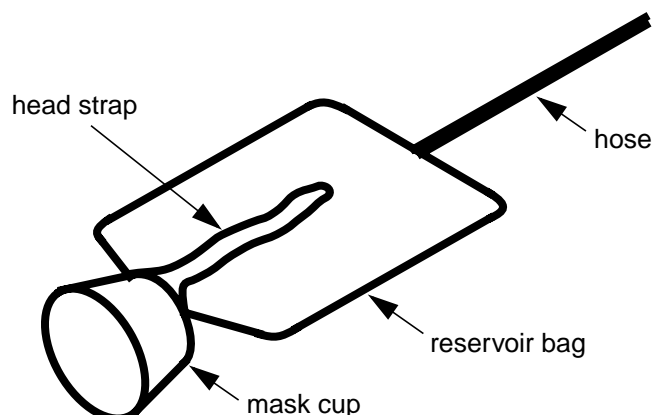
5.1 General

- 5.1.1 It is **imperative** that re-packing of oxygen masks be followed as specified herein to ensure proper function of the APPOS system in the event oxygen masks must be deployed in service.
- 5.1.2 All tests performed on the aircraft should be completed with the generator safety pin in place, ensuring that the generator cannot be inadvertently activated. If the generator has not been activated then generator replacement is not required.
- 5.1.3 APPOS assemblies are available in several different arrangements, with 2 or 3 masks contained in the assembly, depending upon their placement in the aircraft.
- 5.1.4 If the assembly generator has fired, it must be replaced. Refer to Liaison Engineering for disposition of APPOS assemblies if the generator has fired.
- 5.1.5 Wear **clean** cotton gloves at all times when handling APPOS assembly components and re-packing masks.
- 5.1.6 Take care at all times to avoid contamination (e.g., oil, grease, swarf, dust, etc.) of APPOS assembly components. Refer APPOS assemblies which have become contaminated to Liaison Engineering for disposition.
- 5.1.7 The procedure specified herein is to be followed when re-packing masks when the APPOS assemblies are installed in the aircraft.

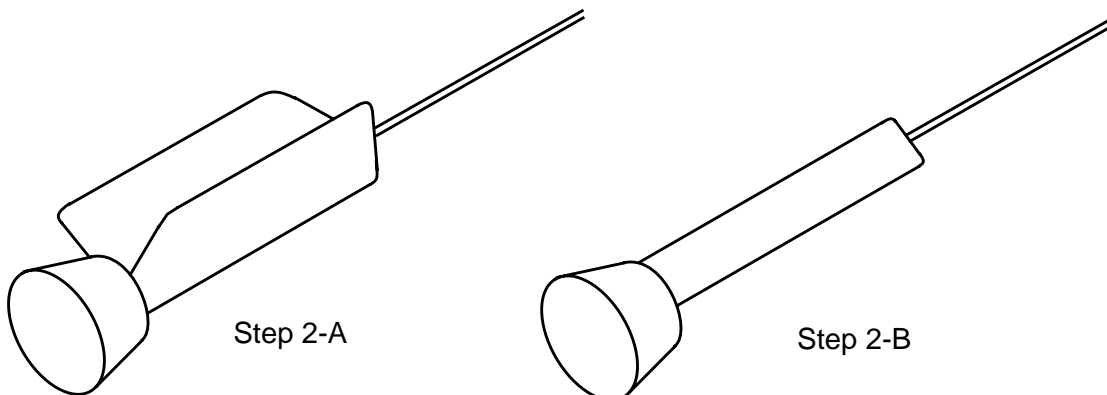
5.2 Preparation of Mask Cup, Head Strap, Reservoir Bag and Hose for Re-Packing

- 5.2.1 Prepare the mask cup, head strap, reservoir bag and hose for re-packing as follows:

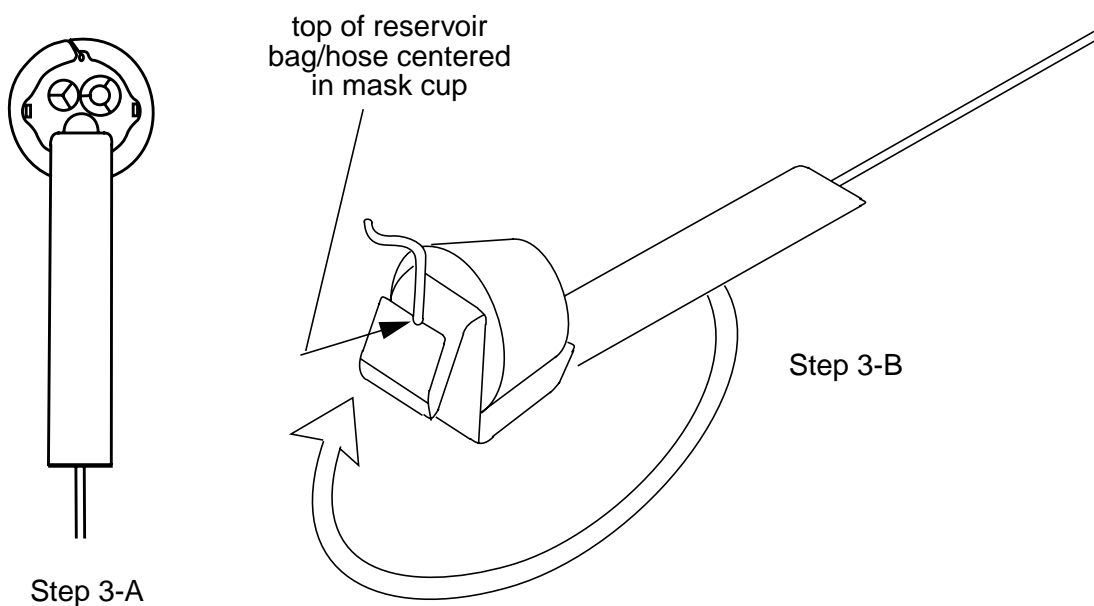
Step 1. Lay out the mask cup, head strap, reservoir bag and hose as shown below. Ensure the assembly is free of nicks, cuts, abrasions or chemical damage; replace any damaged or defective mask assembly.



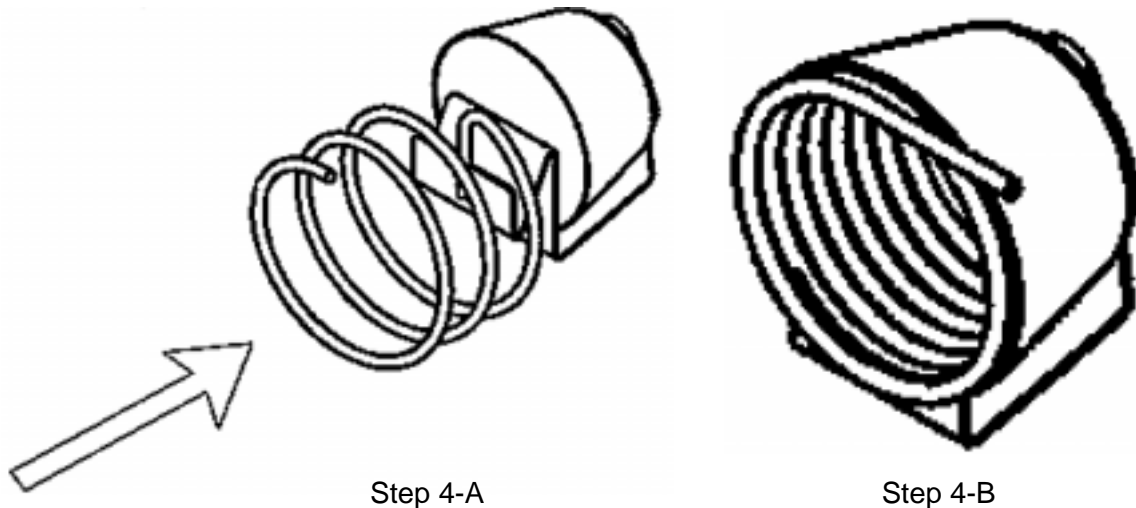
Step 2. Fold the reservoir bag in thirds lengthwise as shown below:



Step 3. Place the folded reservoir bag along the side of the mask cup (Step 3-A) and fold into the mask cup (Step 3-B) as shown below with the top of the reservoir bag/hose centered in the mask cup.



Step 4. Coil the hose neatly into the mask cup as shown below:



5.3 Re-Packing of Left Hand Passenger Mask Assemblies (see [Figure 1](#))

5.3.1 Re-pack masks into left hand passenger mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Verify that the deployment blanket is properly attached to the door. The self-fastening pads on the blanket must match the door.
- Step 3. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). After the first mask is prepared, it is recommended that it be held by an assistant while the other mask is prepared.
- Step 4. Once both of the masks have been prepared for re-packing, place each mask up into the mask container, pulling the door partially shut while doing this. Position the hoses above the masks. Masks must be placed to prevent hoses and lanyards from becoming tangled.
- Step 5. Route each lanyard through the lanyard guide.
- Step 6. Store excess lanyard length on the door under each respective mask.
- Step 7. Finish closing the door, pressing firmly in the middle of the door until the door latches, and then verify that the door is locked.
- Step 8. Press on the 2 hinge side corners of the door and then along the edge of the door to seat the hinges as shown in [Figure 2](#).

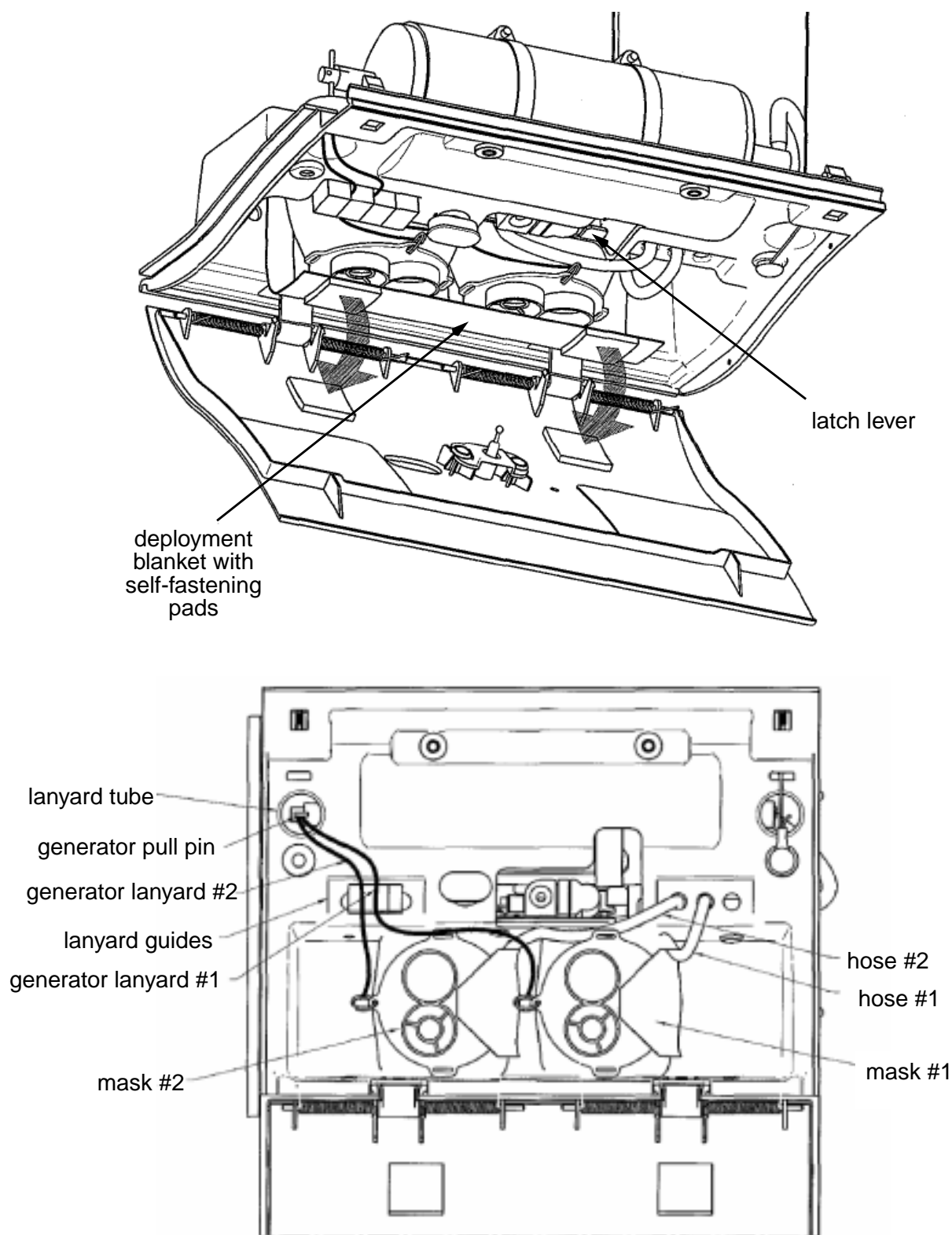


Figure 1 - Left Hand Passenger Mask Assembly

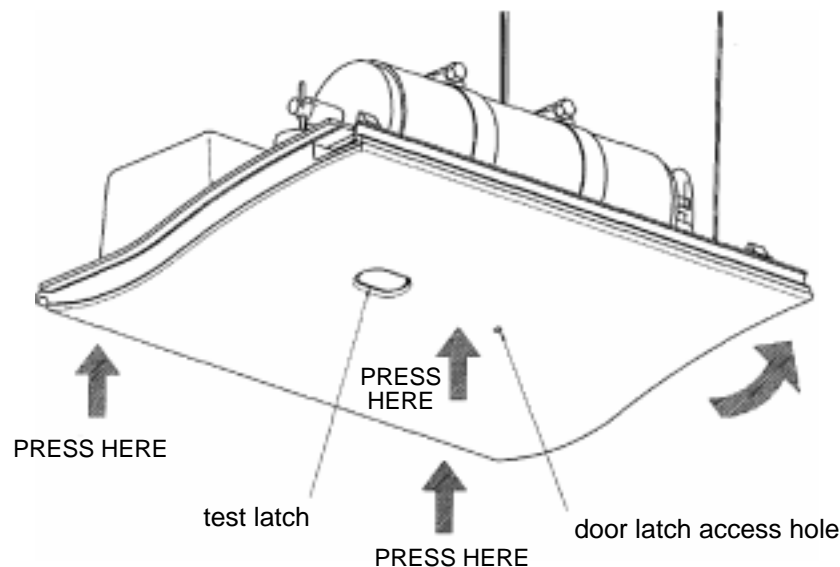


Figure 2 - Closing the Door on the Left Hand Passenger Mask Assembly

5.4 Re-Packing of Right Hand Passenger Mask Assemblies (see [Figure 3](#))

5.4.1 Re-pack masks into right hand passenger mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Verify that the deployment blanket is properly attached to the door. The self-fastening pads on the blanket must match the door.
- Step 3. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). It is recommended that prepared masks be held by an assistant until all masks are prepared.
- Step 4. Once all the masks have been prepared for re-packing, place each mask up into the mask container, pulling the door partially shut while doing this. Position the hoses above the masks. Masks must be placed to prevent hoses and lanyards from becoming tangled.
- Step 5. Route each lanyard through the lanyard guide.
- Step 6. Store excess lanyard length on the door under each respective mask.
- Step 7. Finish closing the door, pressing firmly in the middle of the door until the door latches, and then verify that the door is locked.
- Step 8. Press on the 2 hinge side corners of the door and then along the edge of the door to seat the hinges as shown in [Figure 4](#).

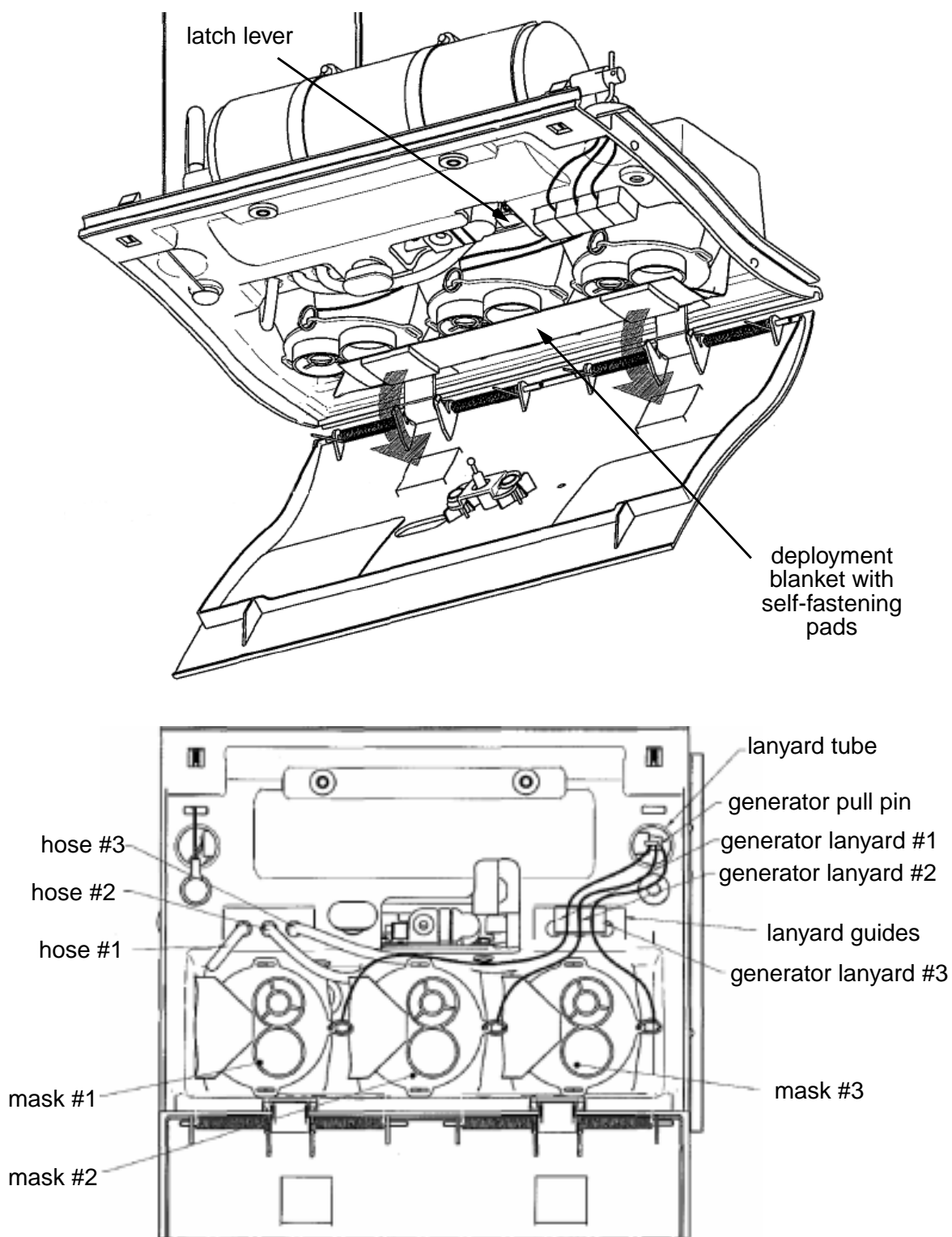


Figure 3 - Right Hand Passenger Mask Assembly

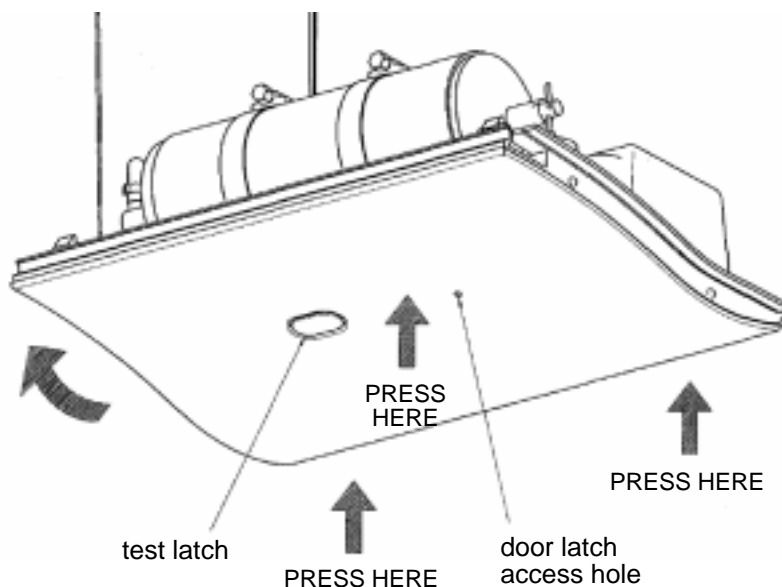


Figure 4 - Closing the Door on the Right Hand Passenger Mask Assembly

5.5 Re-Packing of Right Hand Passenger Emergency Exit Mask Assemblies (see [Figure 5](#))

5.5.1 Re-pack masks into right hand passenger emergency exit mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). It is recommended that prepared masks be held by an assistant until all masks are prepared.
- Step 3. Once all the masks have been prepared for re-packing, place each mask up into the mask container. Position the hoses above the masks. Masks must be placed to prevent hoses and lanyards from becoming tangled.
- Step 4. Route each lanyard through the lanyard guide.
- Step 5. Assemble the door by inserting the door support plate into the opening in the mask container.
- Step 6. Store excess lanyard length on the door under each respective mask.
- Step 7. Close the door, pressing firmly in the centre of the door until the door latches as shown in [Figure 6](#), and then verify that the door is locked.

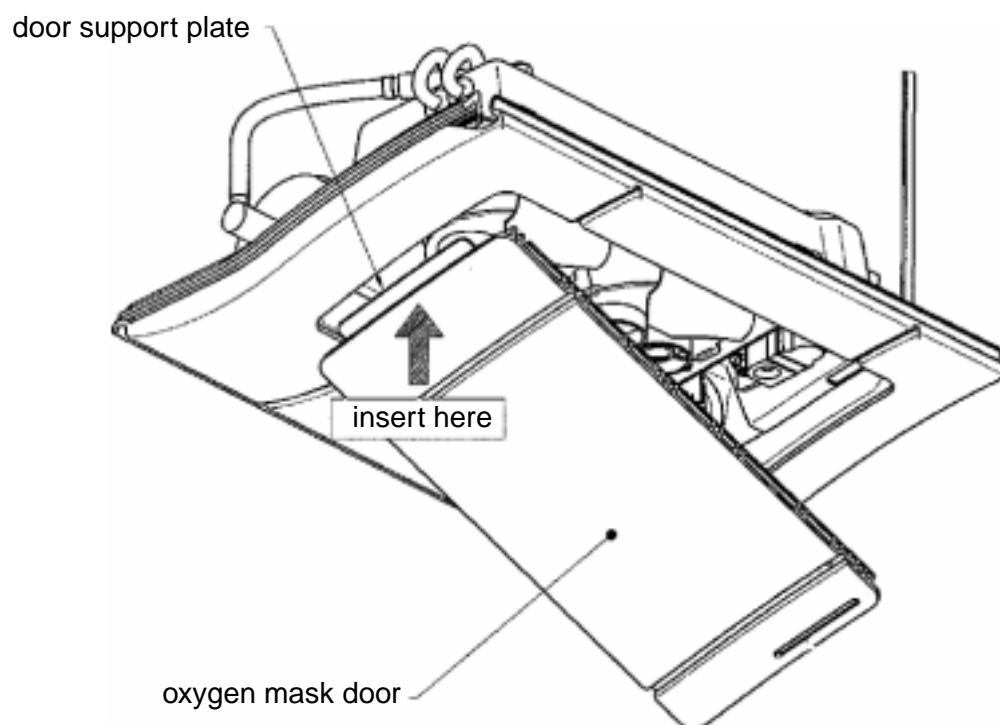
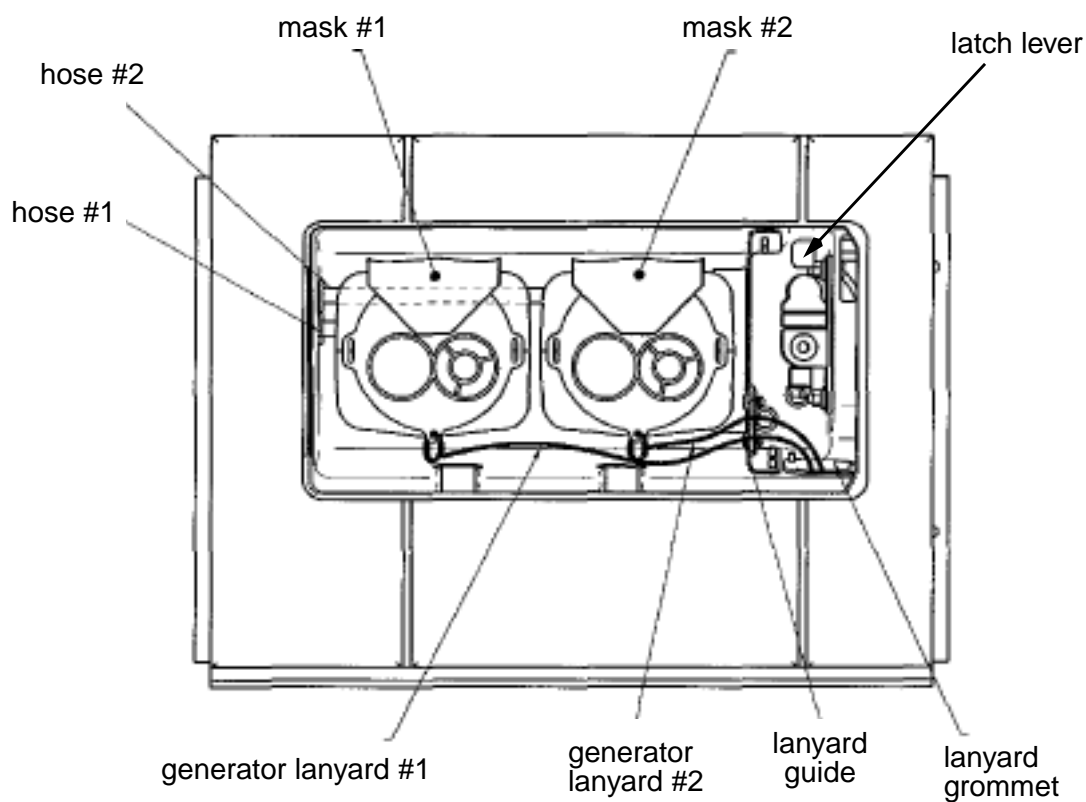


Figure 5 - Right Hand Passenger Emergency Exit Mask Assembly

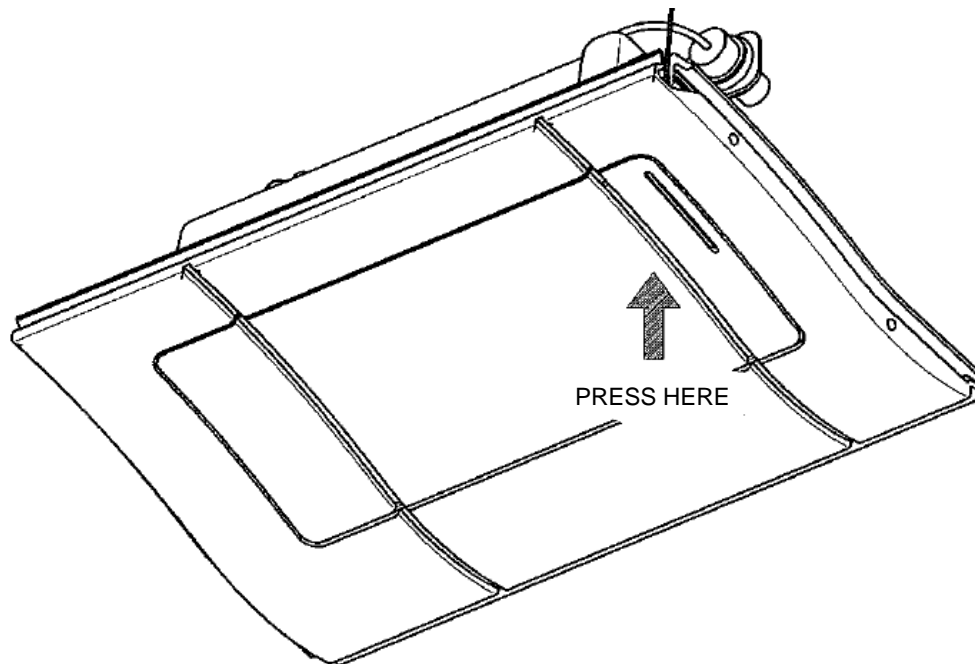


Figure 6 - Closing the Door on the right Hand Passenger Emergency Exit Mask Assembly

5.6 Re-Packing of Lavatory Mask Assemblies (see [Figure 7](#))

5.6.1 Re-pack masks into lavatory mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Verify that the deployment straps are properly attached to the door via the self-locking fasteners on the door.
- Step 3. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). It is recommended that prepared masks be held by an assistant until all masks are prepared.
- Step 4. Once all the masks have been prepared for re-packing, place each mask up into the mask container. Position the hoses above the masks. Masks must be placed to prevent hoses and lanyards/lanyard extensions from becoming tangled.
- Step 5. Begin closing the door, ensuring that each mask is properly placed and oriented, lanyards/lanyard extensions are routed properly and that there are no obstructions to the door latch.
- Step 6. Finish closing the door by pressing firmly in the centre of the door near the striker until the door latches as shown in [Figure 8](#), and then verify that the door is locked.

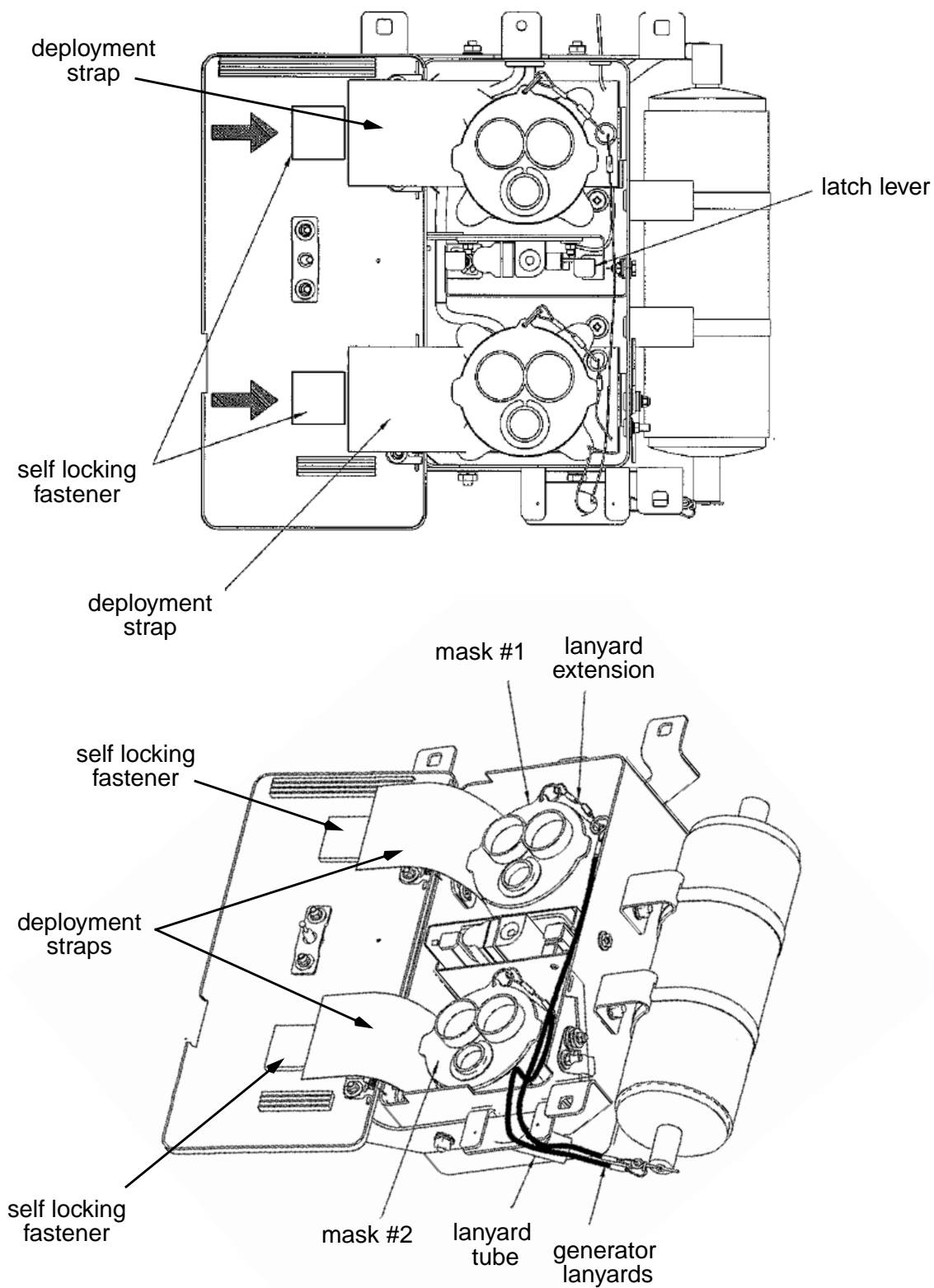


Figure 7 - Lavatory Mask Assembly

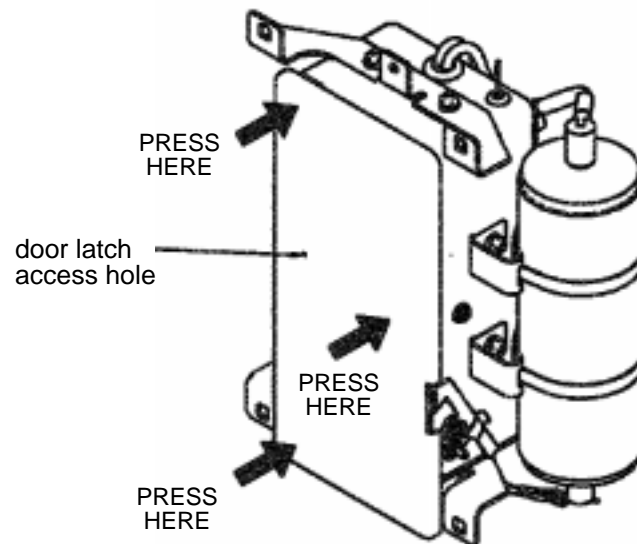


Figure 8 - Closing the Door on the Lavatory Mask Assembly

5.7 Re-Packing of FWD Flight Attendant Mask Assemblies (see [Figure 9](#))

5.7.1 Re-pack masks into FWD flight attendant mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). It is recommended that prepared masks be held by an assistant until all masks are prepared.
- Step 3. Once all the masks have been prepared for re-packing, place each mask up into the mask container. Position the hoses above the masks and streamers below the masks as shown. Masks must be placed to prevent hoses, streamers and lanyards from becoming tangled.
- Step 4. Route lanyard #1 through the lanyard guide.
- Step 5. Begin closing the door, ensuring that each mask and streamer is properly placed and oriented, lanyards are routed properly and that there are no obstructions to the door latch.
- Step 6. Store excess lanyard length on the door under each respective mask.
- Step 7. Finish closing the door by pressing firmly in the centre of the door near the door latches and then verify that the door is locked.
- Step 8. Press on the 2 hinge side corners of the door and then along the edge of the door to seat the hinges as shown in [Figure 10](#).

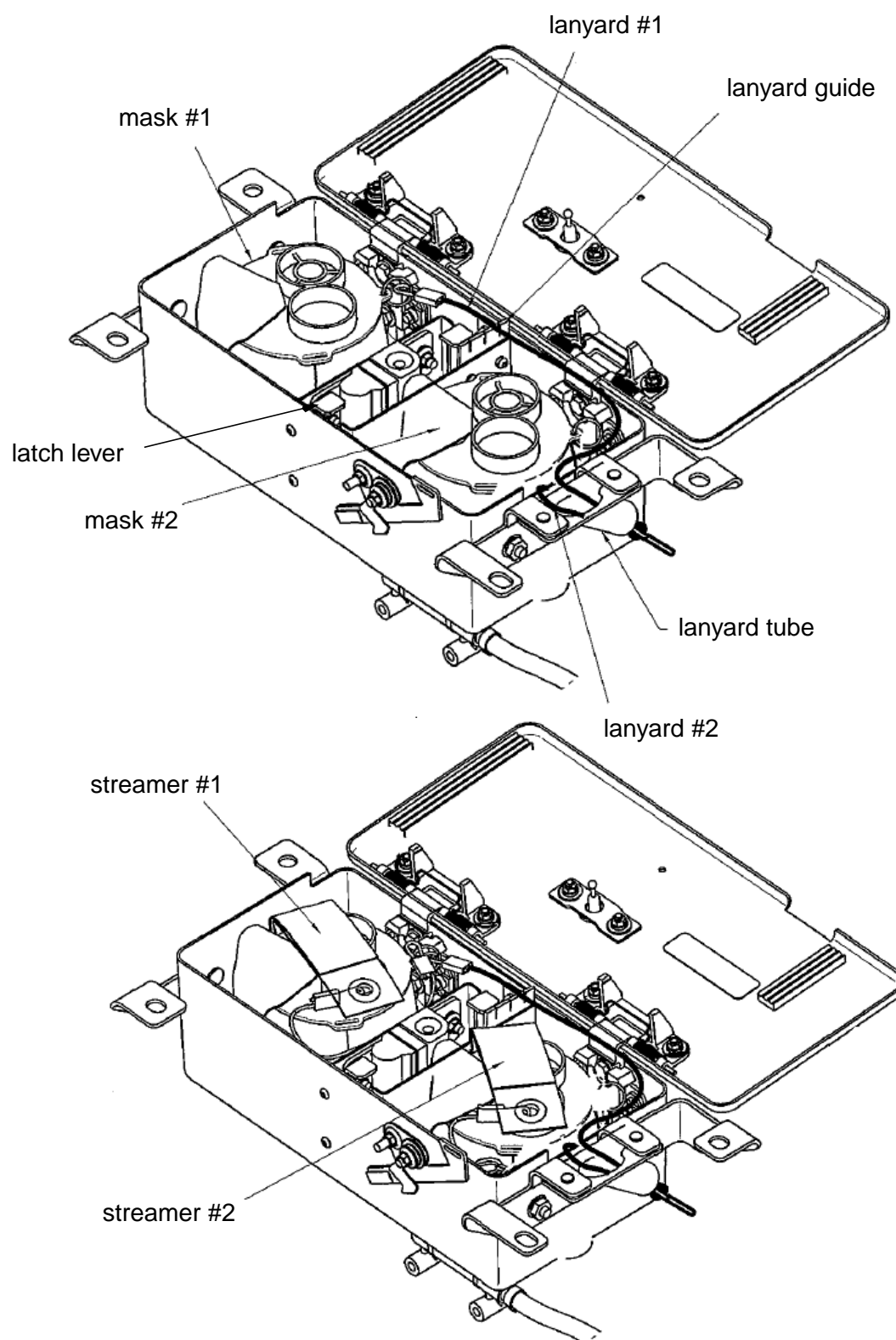


Figure 9 - FWD Flight Attendant Mask Assembly

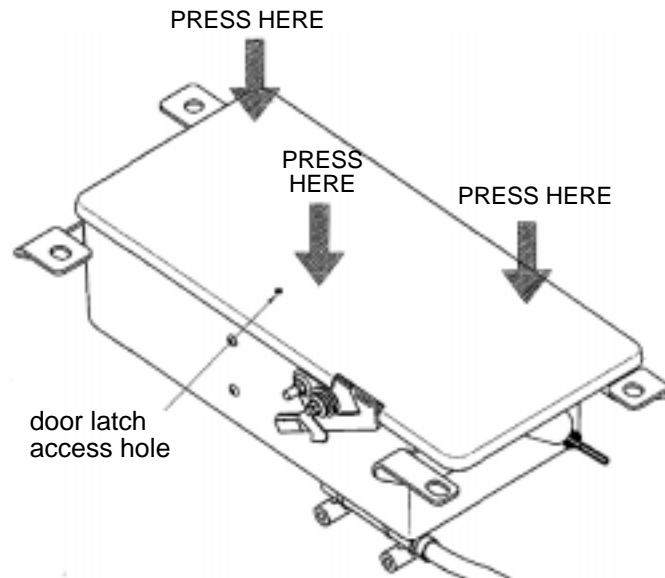


Figure 10 - Closing the Door on the FWD Flight Attendant Mask Assembly

5.8 Re-Packing of Rear (AFT) Flight Attendant Mask Assemblies (see [Figure 11](#))

5.8.1 Re-pack masks into rear (AFT) flight attendant mask assemblies as follows:

- Step 1. Reset the door latch by pivoting the latch reset lever.
- Step 2. Prepare each of the masks (mask cup, head strap, reservoir bag and hose) for re-packing as specified in [section 5.2](#). It is recommended that prepared masks be held by an assistant until all masks are prepared.
- Step 3. Once all the masks have been prepared for re-packing, place each mask up into the mask container. Position the hoses under the masks and streamers over the masks as shown. Masks must be placed to prevent hoses, streamers and lanyards from becoming tangled.
- Step 4. Route generator lanyards #1 and #2 through the lanyard guide.
- Step 5. Begin closing the door, ensuring that each mask and streamer is properly placed and oriented, lanyards are routed properly and that there are no obstructions to the door latch.
- Step 6. Store excess lanyard length on the door under each respective mask.
- Step 7. Finish closing the door by pressing firmly in the centre of the door near the door latch and then verify that the door is locked.
- Step 8. Press on the 2 hinge side corners of the door and then along the edge of the door to seat the hinges as shown in [Figure 12](#).

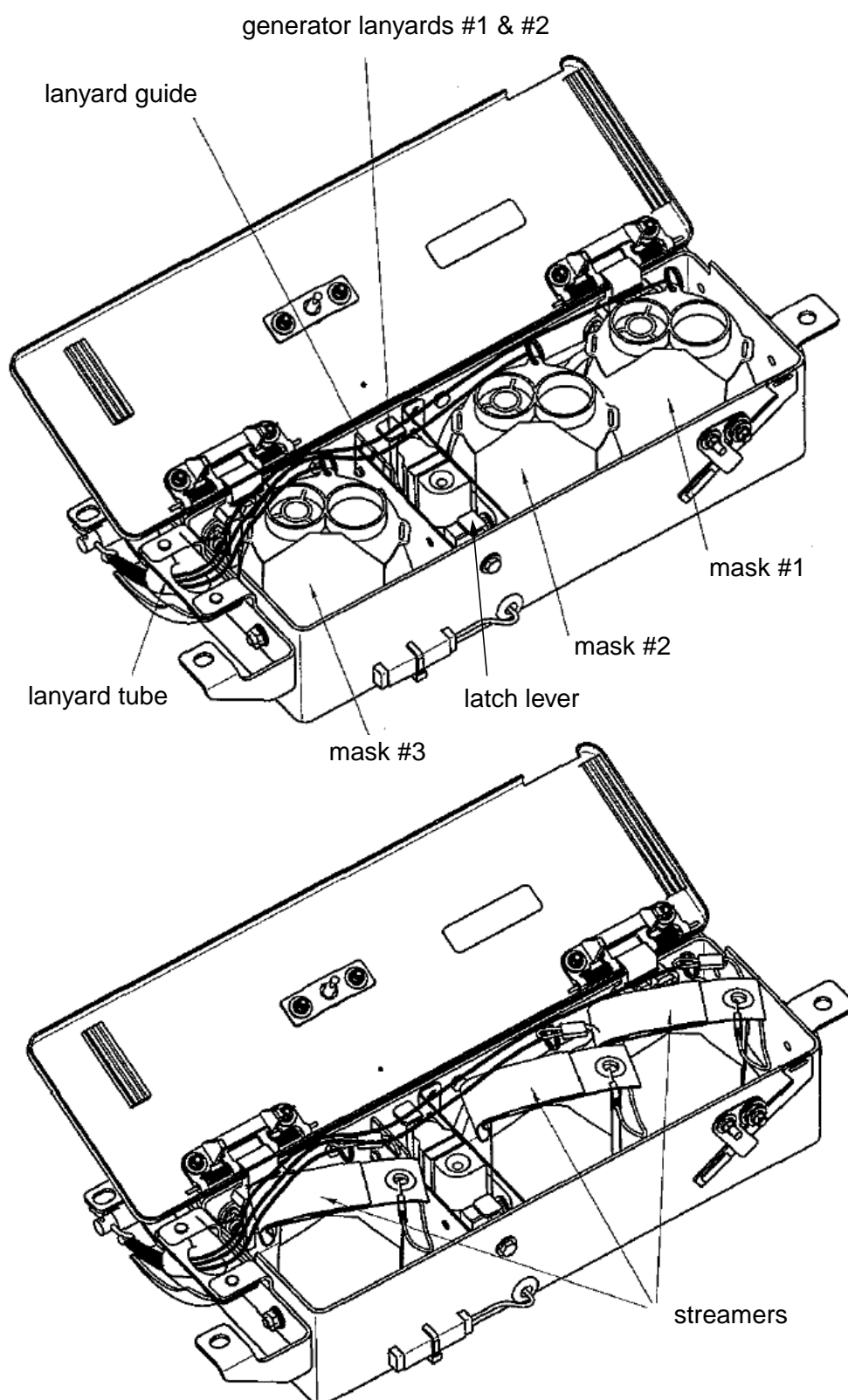


Figure 11 - Rear (AFT) Flight Attendant Mask Assembly

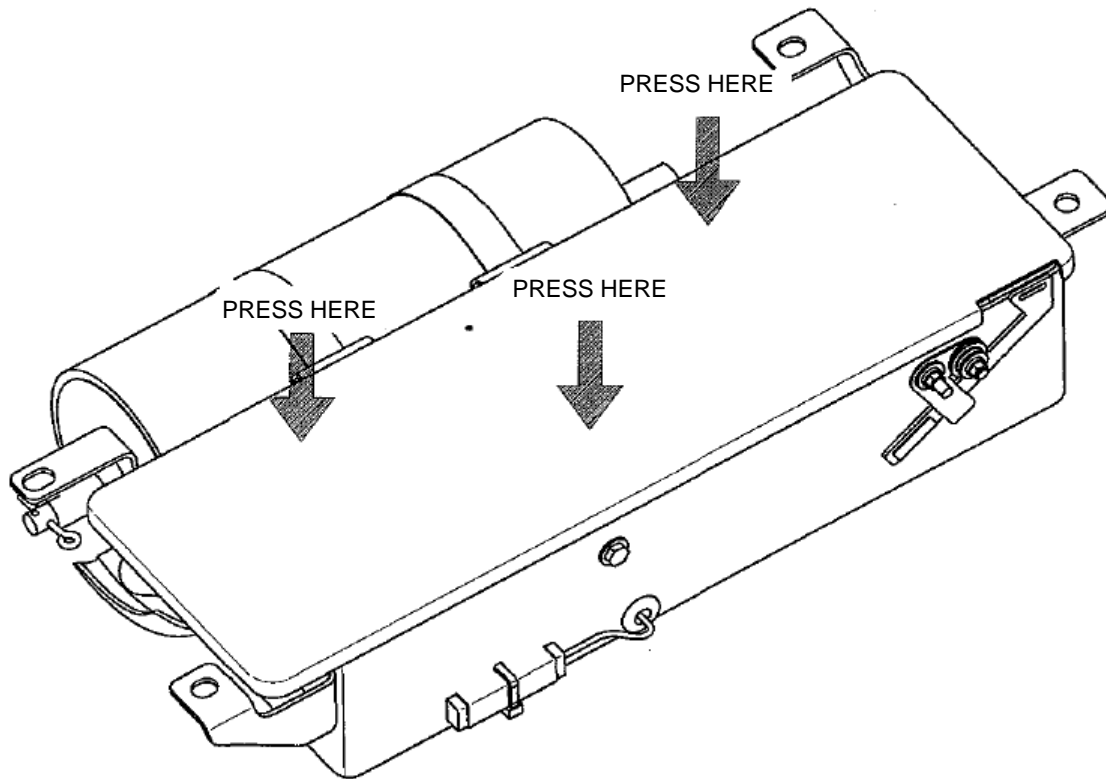


Figure 12 - Closing the Door on the Rear (AFT) Flight Attendant Mask Assembly

6 Requirements

- 6.1 All oxygen masks re-packed in APPOS assemblies must be re-packed according to the applicable procedure as specified herein.

7 Safety Precautions

- 7.1 **Observe general shop safety precautions when performing the procedure specified herein.**
- 7.2 **A generator that has fired can reach a temperature of 525°F and it will take a minimum of 60 minutes to cool to a safe temperature before handling.**

8 Personnel Requirements

8.1 The procedure specified herein has been classified as a critical operation and, therefore, certification and/or qualification of personnel is required. Certified and/or qualified personnel must have a good working knowledge of the following, as applicable:

- cleanliness requirements for working with oxygen system components
- importance of adhering to mask preparation and re-packing instructions and requirements
- how to remove the safety flag without pulling on the firing pin and activating the oxygen generator
- how to prepare the masks (including the mask cup, head strap, reservoir bag and hose) for re-packing into the various APPOS assemblies
- what to do if an APPOS assembly generator has fired (e.g., open mask assembly door, etc.)
- how to re-pack prepared masks into each of the various APPOS assemblies
- purpose of deployment blankets and streamers
- why hoses should be placed above masks when re-packed
- why streamers should be placed below the masks when re-packed
- why lanyards are routed through the lanyard guides
- why lanyard extensions are used for certain APPOS assemblies and not others
- why it is important to take care when placing prepared masks in the APPOS assembly to ensure that hoses, lanyards and streamers will not become tangled
- why it is necessary for certain APPOS assemblies to press on the 2 hinge side corners of the door and then along the edge of the door to seat the hinges
- how to verify that the door is locked for each APPOS assembly
- safety precautions relating to re-packing of masks in APPOS assemblies

8.2 Personnel experiencing severe dandruff or a contagious illness are not permitted to re-pack oxygen masks into APPOS assemblies.