

### KSSU Group

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3 /	OCT 10/92 OCT 10/92	13 10	517 518	JUN 18/99 JUN 18/99	15A 18A	407 408	OCT 10/94 OCT 10/96	01 04
5	OCT 10/92	13	519	JUN 18/99 JUN 18/99	19A	408	JUN 10/96	04
2 3 4 5 6	OCT 10/92	02	520	JUN 18/99	17A	410	JUN 10/91	04
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8	OCT 10/92	05	522	JUN 18/99	21A	412	BLANK	
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Maintenance Practices		201	ALL
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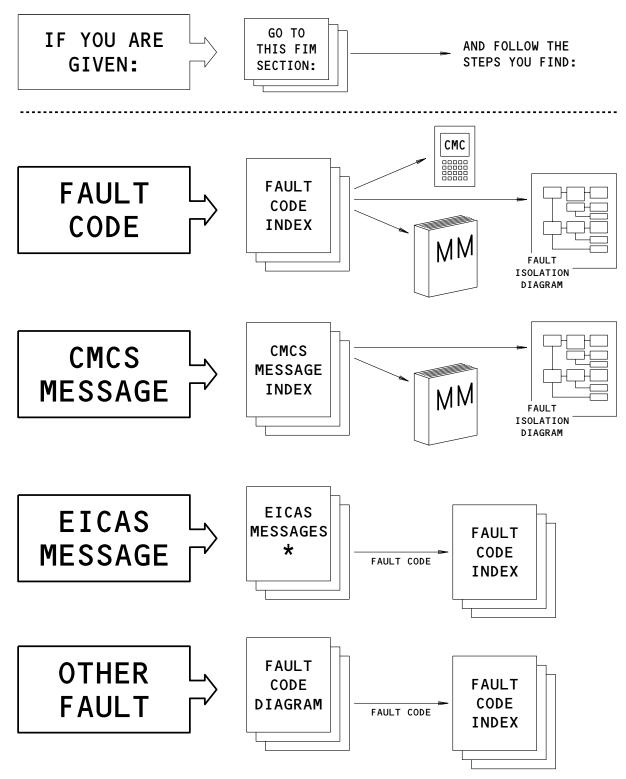


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 $\star$  THERE IS ALSO A MASTER LIST OF ALL EICAS MESSAGES AT THE FRONT OF THE FIM

How to Use the FIM Figure 1

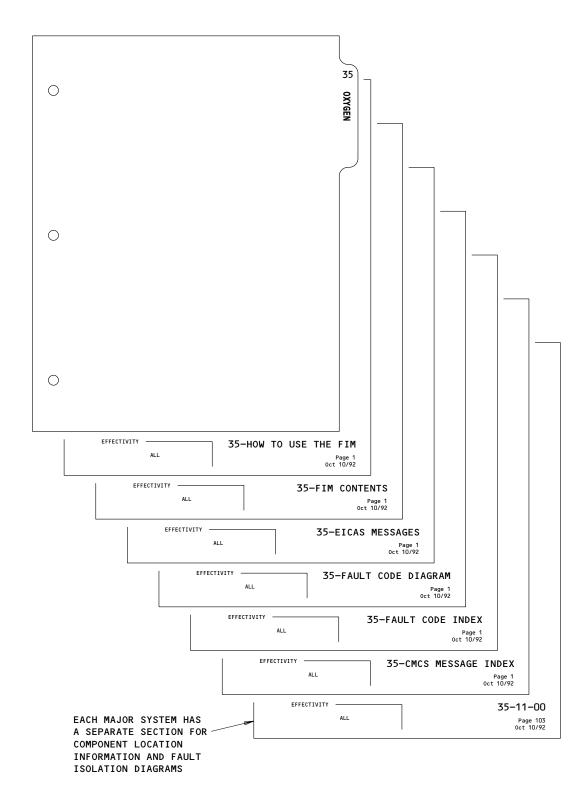
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01

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Subjects in this FIM Chapter Figure 2

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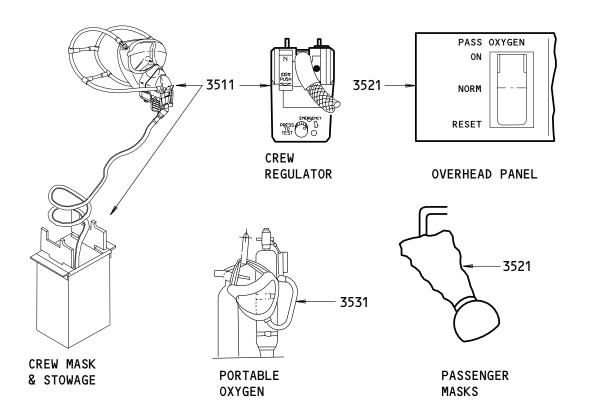
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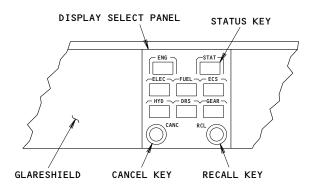
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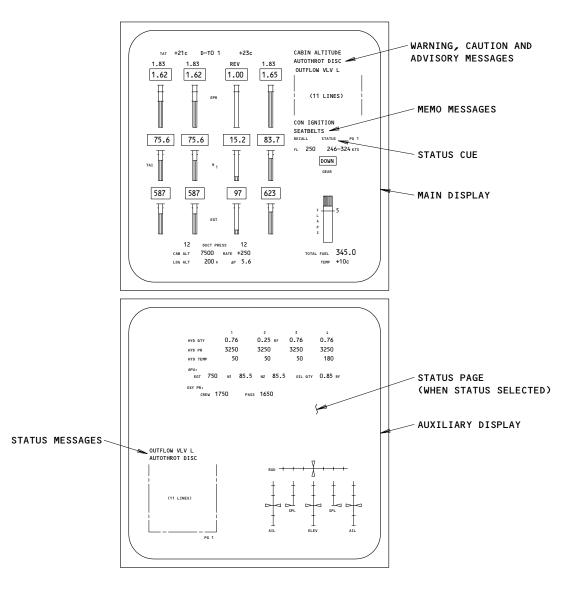
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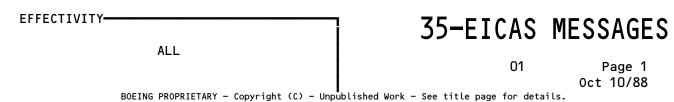
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### EICAS DISPLAYS





EICAS MESSAGE	LEVEL	DESCRIPTION	FAULT CODE
>CREW OXY LOW	(ADVISORY)	CREW OXYGEN PRESSURE AT OR BELOW A CUSTOMER SPECIFIED PRESSURE.	35 11 01 00
PASS OXYGEN ON	(ADVISORY)	PASSENGER OXYGEN FLOW CONTROL UNIT ACTUATED	35 21 03 00
PASS OXYGEN ON	(STATUS)	OXYGEN PASSENGER FLOW CONTROL UNIT ACTUATED	35 21 04 00

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ALL

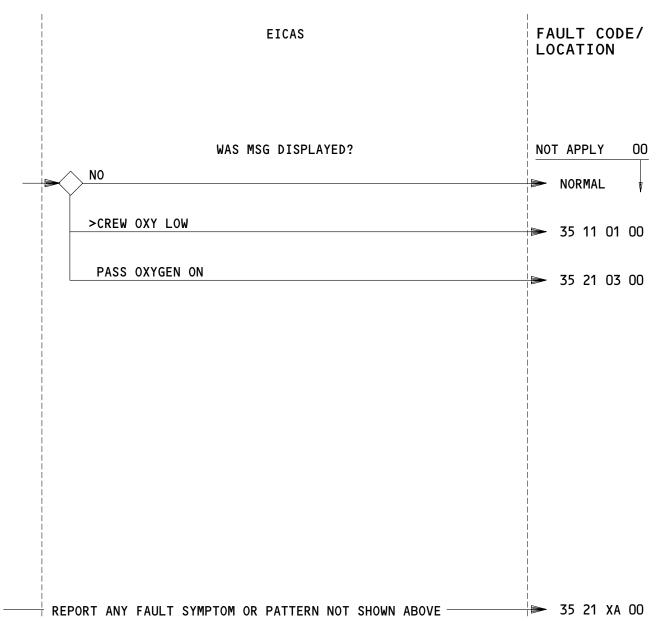
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### EICAS MESSAGES - FAULT CODES

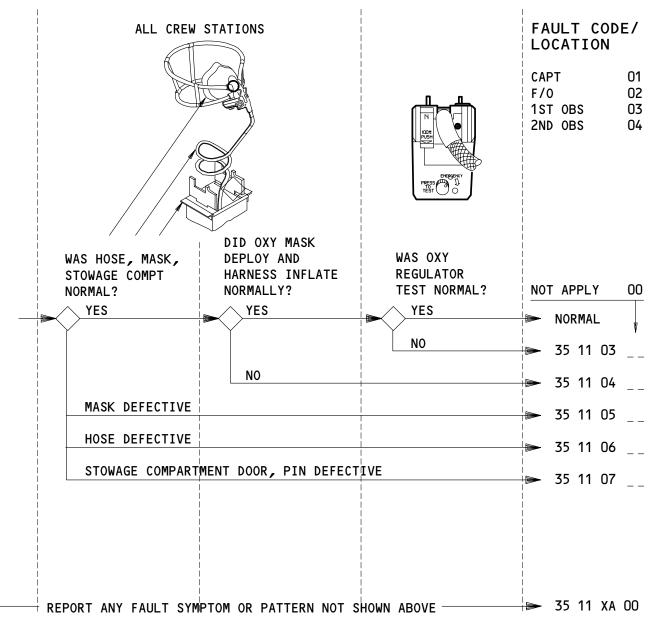
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# 35-FAULT CODE DIAGRAM

03

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APPLICABLE CIRCUIT BREAKERS

7D3 **OXYGEN RESET** 

OXYGEN VALVE & IND 7D4

CREW OXYGEN - FAULT CODES

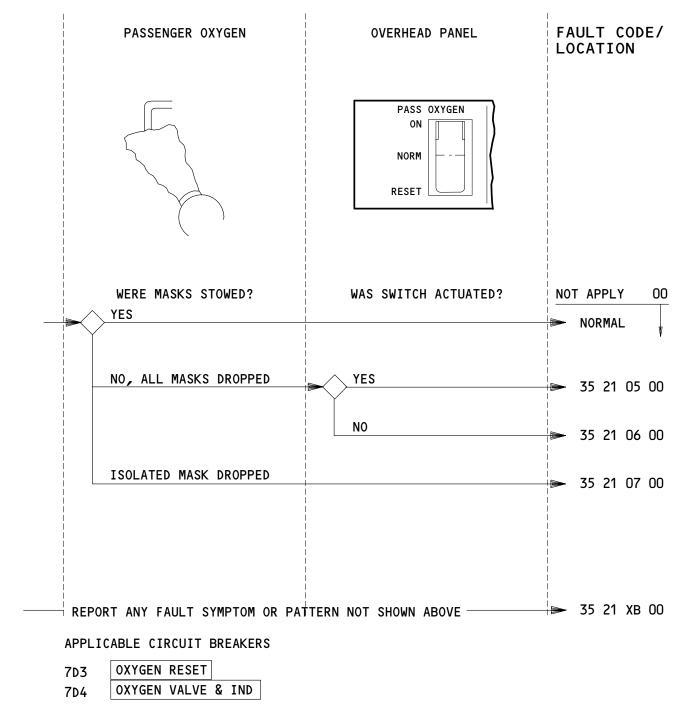
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# 35-FAULT CODE DIAGRAM

01

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### PASSENGER OXYGEN - FAULT CODES

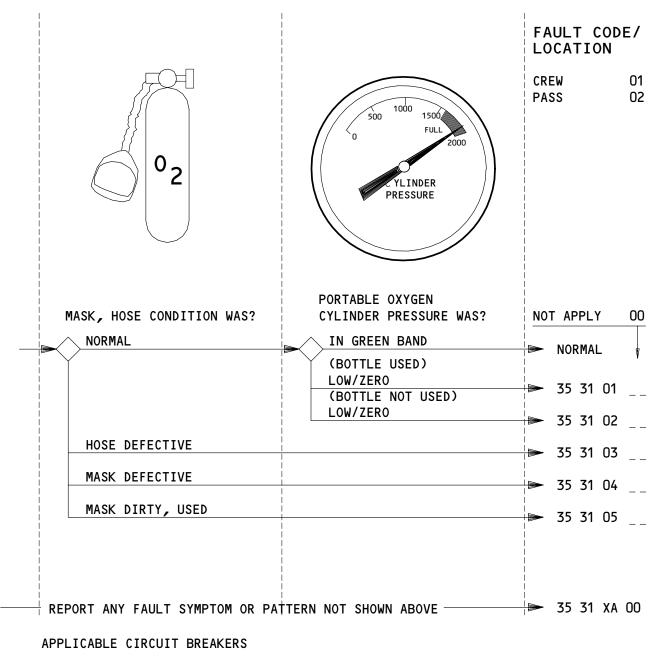
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# 35-FAULT CODE DIAGRAM

01

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PORTABLE OXYGEN - FAULT CODES

NONE

# 35-FAULT CODE DIAGRAM

01

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#### FAULT CODE INDEX

### 1. General

- A. The Fault Code Index includes fault isolation or corrective action for each fault code in the Fault Reporting Manual (FRM). The fault codes for each chapter are in numerical order.
  - (1) The first paragraph given with each fault code is the log book report from the FRM. The log book report is a short description of the fault.
  - (2) The numbered paragraphs after the log book report contain the fault isolation or the corrective action.
- B. The fault isolation for most EICAS messages, engine exceedances, or PFD flags includes a list of one or more possible correlated CMCS messages.
  - (1) For each CMCS message in the list, there is the message number and an ATA number. The ATA number is the prompt under which you can find the message in Existing Faults or Fault History on the CDU.
  - (2) The corrective action refers to the procedure in Figure 1 of this section. Figure 1 shows how to use the Present Leg Faults, Existing Faults, and Fault History functions of the CMC to isolate the fault to a specific CMCS message.
- C. For those EICAS status messages which latch into EIU memory when they occur, this index includes the letters NVM, NVM-A, or NVM-G to the right of the log book report.
  - (1) NVM indicates that the message latches if it occurs in the air or on the ground.
  - (2) NVM-A indicates that the message latches only if it occurs in the air.
  - (3) NVM-G indicates that the message latches only if it occurs on the ground.
  - (4) To remove the latched message from the EICAS after you correct the fault, you must use the ERASE function of the CMC.

NOTE: Do not erase a latched EICAS message until you are sure that you have corrected the fault.

- D. When the CDU shows a large number of Flight Deck Effects (FDEs) or CMCS messages, it is possible that there is a bus failure. Do these steps to isolate the cause of the bus failure:
  - Look at the CMCS messages to determine which system or LRU is related to all the messages.
  - (2) Look at the wiring diagram for each system and determine if the suspect LRUs are on a common bus.
  - (3) Do a check of the wiring between each of the suspect LRUs and the common bus.
  - (4) Repair any problems that you find.

ALL

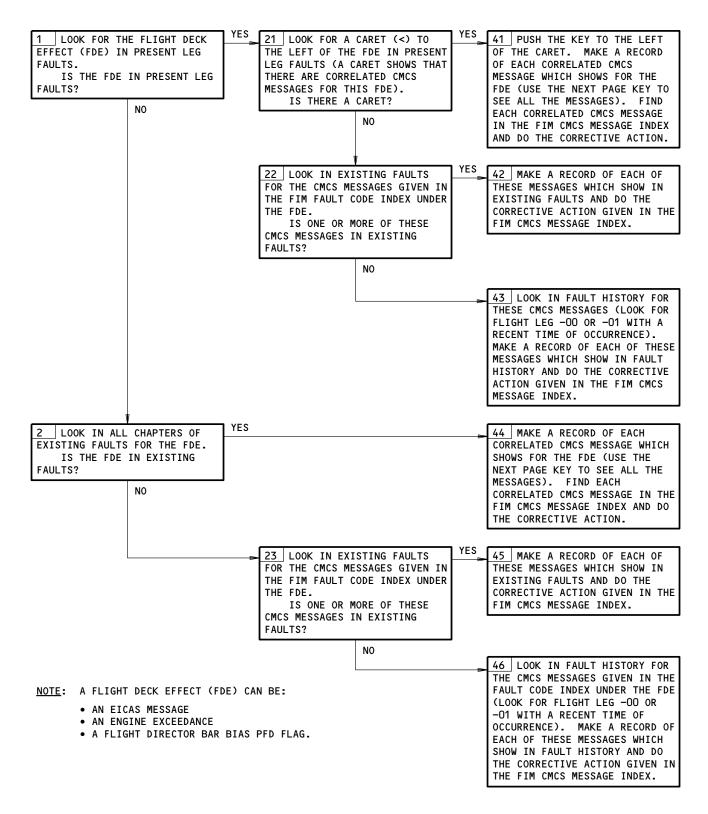
- (5) If the problem continues, remove each LRU individually to determine which LRU is the cause of the fault.
- (6) Replace the LRU which caused the fault.

EFFECTIVITY-

35-FAULT CODE INDEX

01

1



Fault Isolation Procedure with the CMCS
Figure 1

# 35-FAULT CODE INDEX

01

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FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
35 11 XA 00	The flight crew found a crew oxygen problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 35-11-00/501.
35 21 XA 00	The flight crew found an EICAS message that is not on the fault code diagram in the FRM. See the entry that flight crew wrote in the logbook.  1. AMM 35-21-00/501.
35 21 XB 00	The flight crew found a passenger oxygen problem that is not in the fault code diagram of the FRM. See the entry that the flight crew wrote in the logbook.  1. AMM 35-21-00/501.
35 31 XA 00	The flight crew found a portable oxygen bottle problem that is not covered in the fault code diagram in the FRM. See what the flight crew wrote in the logbook  1. AMM 35-31-00/501.
35 11 01 00	The EICAS message >CREW OXY LOW (ADVISORY) shows. 1. Look for one or more of these CMCS messages (Fig. 1):
	35001 (35–11)
35 11 02 00	Not Used.
35 11 03	(01=Capt, 02=F/0, 03=1st Obs, 04=2nd Obs) oxy regulator abnormal operation, (difficult to exhale, no pressure breathing available, leaking).  1. Replace the mask/regulator (AMM 35-11-18/401).
35 11 04	(01=Capt, 02=F/0, 03=1st Obs, 04=2nd Obs) oxy mask (difficult to release from storage, harness fails to inflate, harness leaking, harness fails to deflate).  1. Replace the mask/regulator (AMM 35-11-18/401).
35 11 05	(01=Capt, 02=F/0, 03=1st Obs, 04=2nd Obs) oxy mask defective. (describe)  1. Repair or replace the oxygen mask (AMM 35-11-18/401).
35 11 06	(01=Capt, 02=F/0, 03=1st Obs, 04=2nd Obs) oxy hose defective. (describe)  1. Repair or replace the oxygen mask (AMM 35-11-18/401).

EFFECTIVITY-

# 35-FAULT CODE INDEX

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
35 11 07	(01=Capt, 02=F/0, 03=1st Obs, 04=2nd Obs) oxy mask stowage compt (door, pin, etc) defective. (describe)  1. Adjust, repair, or replace as necessary (AMM 35-11-18/401).
35 21 01 00	Not used.
35 21 02 00	Not Used.
35 21 03 00	The EICAS message >PASS OXYGEN ON (ADVISORY) shows; or the EICAS message PASS OXYGEN ON (ADVISORY) shows.  1. Look for one or more of these CMCS messages (Fig. 1):
	35003 (35–21)
35 21 04 00	The EICAS message PASS OXYGEN ON (STATUS) shows. (NVM-A)  1. Look for one or more of these CMCS messages (Fig. 1):
	35003 (35–21)
35 21 05 00	All masks dropped after actuation of pass oxy switch.  1. Put the system back in its usual condition (AMM 35-21-00/201).
35 21 06 00	All masks dropped automatically.  1. Put the system back in its usual condition (AMM 35-21-00/201).
35 21 07 00	<pre>Isolated mask(s) dropped. (Identify location). 1. FIM 35-21-00, Fig. 104, Block 2.</pre>
35 31 01	(O1=Crew, O2=Pass) portable oxygen cylinder press is (low, zero) (identify location). Bottle was used.  1. Replace or recharge the portable oxygen cylinder.
35 31 02	(O1=Crew, O2=Pass) portable oxygen cylinder press is (low, zero) (identify location). Bottle was not used.  1. Replace or recharge the portable oxygen cylinder.
35 31 03	(O1=Crew, O2=Pass) portable oxygen cylinder hose is defective, (identify location).  1. Replace the mask and the hose assembly.
35 31 04	(O1=Crew, O2=Pass) portable oxygen cylinder mask is defective (identify location).  1. Replace the mask and the hose assembly.

EFFECTIVITY-

# 35-FAULT CODE INDEX

01

ALL



FAULT CODE LOG BOOK REPORT/
CORRECTIVE ACTION

35 31 05 \_\_ (O1=Crew, O2=Pass) portable oxygen cylinder mask is (dirty, used) (identify location).

1. Clean or replace the mask and the hose assembly.

EFFECTIVITY-

ALL

# 35-FAULT CODE INDEX



CMCS MESSAGE	POSSIBLE FLIGHT DECK EFFECT
35001 CREW OXYGEN LOW	>CREW OXYGEN LOW (ADVISORY)

### **CORRECTIVE ACTION:**

 $\underline{\text{NOTE}} \colon$  If <READ SNAPSHOT shows, push the adjacent LSK to see a

maintenance page snapshot related to the problem.

A. See FIM 35-11-00/101, Fig. 103, Block 1.

CMCS MESSAGE	POSSIBLE FLIGHT DECK EFFECT		
35003 PASSENGER OXYGEN ON	>PASS OXYGEN ON (ADVISORY)	PASS OXYGEN ON (STATUS)	PASS OXYGEN ON (ADVISORY)

### **CORRECTIVE ACTION:**

NOTE: If <READ SNAPSHOT shows, push the adjacent LSK to see a maintenance page snapshot related to the problem.

A. See FIM 35-21-00, Fig. 104, Block 1.

EFFECTIVITY-

35-CMCS MESSAGE INDEX

01F



### OXYGEN - DESCRIPTION AND OPERATION

#### 1. General

- A. The oxygen systems send the high pressure gaseous oxygen at low pressure to the crew and passengers (Fig. 1). High pressure oxygen is kept in oxygen cylinders. Each oxygen cylinder includes a safety discharge device to give protection against too much pressure. The pressure is decreased through applicable means, and sent to the crew and passenger outlets.
- B. Two oxygen systems are supplied: the crew oxygen system, 35-10-00 and the passenger oxygen system, 35-20-00. An emergency oxygen supply is given by the portable oxygen equipment, 35-30-00.
  - (1) In the crew system, the oxygen cylinder pressure is decreased through a pressure reducer and pressure regulator. Any additional or protective oxygen is sent through individual mask stowage boxes.
  - (2) The passenger oxygen system automatically supplies oxygen to the passengers and attendants. This happens whenever the cabin pressure drops to a value equivalent to an altitude of 13,250 to 14,500 feet. System operation, pressure reduction, and flow control are started automatically by continuous flow control units. The system can also be started by a switch on the P5 Pilot's Overhead Panel.
  - (3) Portable oxygen equipment found in the passenger cabin and the control cabin supply oxygen for first aid and walk-around use.

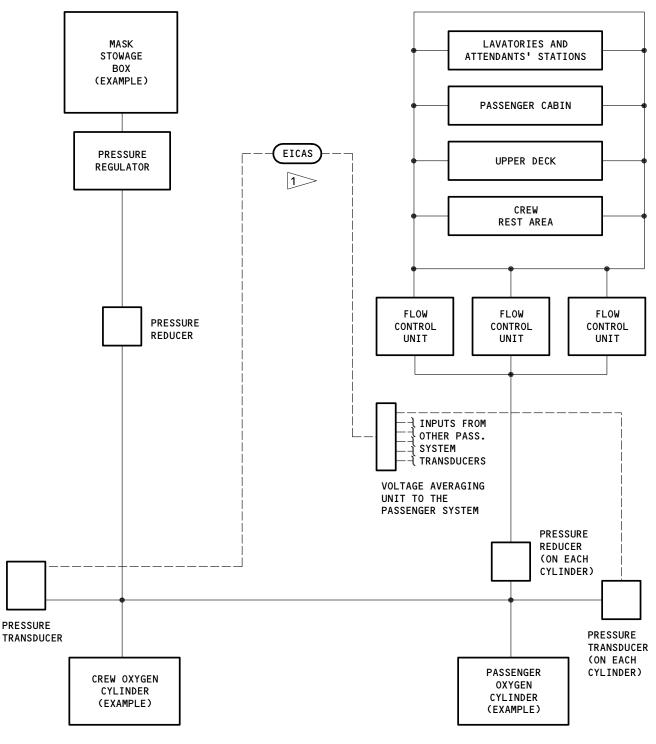
### C. Oxygen Cylinder Servicing

(1) For oxygen cylinder servicing, do this task: Oxygen - Servicing (AMM 12-15-08/301).

35-00-00

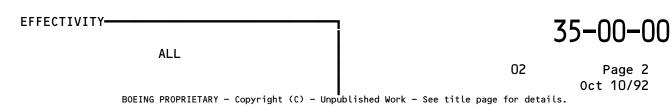
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INPUT TO THE EICAS IS SUPPLIED BY THE EICAS INTERFACE UNITS (EIU'S)

Oxygen System Block Diagram
Figure 1





### OXYGEN - MAINTENANCE PRACTICES

### 1. General

- A. This procedure has one task which is the oxygen system general maintenance practices. This task has safety precautions, general maintenance data, and oxygen system maintenance practices for the crew oxygen system.
- B. You should read this procedure before you do the maintenance on the crew oxygen system.

TASK 35-00-00-912-052

- 2. Oxygen System General Maintenance Practices
  - A. Consumable Materials
    - (1) GOO713 Cloth Clean, Dry, Lint-Free, White, Cotton
    - (2) GO1306 Gloves Clean, Dry, Lint-Free, White, Cotton
    - (3) G00092 Oxygen System Leak Detection Compound MIL-L-25567
    - (4) GO1293 Tape, Teflon Specification MIL-T-27730 1/4 inch wide
    - (5) G01505 Copper Lockwire-0.020 inch diameter

G01505

- B. References
  - (1) 20-41-01/201, Static Grounding
  - (2) 20-51-01/201, Standard Torque Values
  - (3) 35-00-00/701, 0xygen
- C. Access
  - (1) Location Zones

Forward Cargo Container Compartment, Aft Half - Right
Upper Half Fuselage

D. Procedure - Safety Precautions

s 912-075

WARNING: DO NOT WORK ON THE PRESSURIZED OXYGEN SYSTEM WHEN THERE IS OIL, GREASE, FLAMMABLE SOLVENTS, DUST, LINT, METAL FILINGS, OR OTHER COMBUSTIBLE MATERIALS IN THE AREA. THESE MATERIALS CAN CAUSE A FIRE OR AN EXPLOSION WHEN THEY ARE NEAR PRESSURIZED OXYGEN.

(1) Do not work on the pressurized oxygen system near oil, grease, flammable solvents, dust, lint, metal filings, or other flammable materials.

EFFECTIVITY-

35-00-00

ALL



s 862-059

(2) Remove the electrical power (AMM 24-22-00/201).

s 862-057

(3) Make sure the airplane is electrically grounded (Ref 20-41-01/201).

s 912-056

(4) Keep the oxygen away from hot exhaust, sparks, and flame.

s 912-060

(5) Keep the oxygen away from flammable material such as fuel, paint, thinners, and cleaning solvents.

s 912-057

(6) Make sure your hands, clothing, equipment, and tools are clean and free of petroleum products (Ref 35-00-00/701).

s 912-058

(7) Put on clean, white, cotton gloves that are lint-free when you work on the oxygen system.

s 792-059

(8) Use the approved leak detection compounds to do test.

s 212-074

(9) Immediately rub off the leak detection compound with a clean cotton cloth.

s 912-061

(10) Make sure there is a sufficient flow of air through the work area when you work on the oxygen system.

s 032-061

WARNING: DO NOT USE GASKETS OR LUBRICANTS WHEN YOU CONNECT THE FITTINGS IN THE CREW OXYGEN SYSTEM. THE GASKETS OR LUBRICANTS CAN CAUSE A FIRE OR AN EXPLOSION WHEN THEY ARE NEAR PRESSURIZED OXYGEN.

(11) When you install a component in the oxygen system, make sure you remove all the protective caps.

s 212-062

ALL

(12) Make sure the fittings are clean and free of contaminants, and thread chips.

EFFECTIVITY-

35-00-00

01



s 912-063

(13) Do not align the components with the B-nut.

NOTE: If the components are aligned with the B-nut, a leak can occur and can cause a fire or an explosion.

s 912-064

(14) Do not tighten the fittings while the oxygen system is pressurized.

s 862-069

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(15) Close the shutoff valve on the oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by your hand which is equivalent to 25 pound-inches.

s 862-076

WARNING: OPEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDERS SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (16) Open the shutoff valve on the oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully opened.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a wireseal on the shutoff valve.

NOTE: Use 22 SWG red copper wireseal (BICOSOL 22 SWG).

EFFECTIVITY-

35-00-00

ALL

01.1



s 412-071

CAUTION: KEEP A GAP BETWEEN THE ELECTRICAL WIRING AND THE OXYGEN HOSES TO PREVENT CHAFFING. THIS CAN CAUSE DAMAGE TO THE ELECTRICAL WIRING OR OXYGEN HOSES.

(17) Keep a 2-inch gap between the oxygen hose and electrical wiring when the oxygen boxes and mask stowage boxes are closed.

NOTE: If the gap is less than 2 inches, install a clamp hose around the wiring as necessary to prevent chafing.

s 412-072

WARNING: DO NOT INSTALL THE LOW PRESSURE HOSES IN THE HIGH PRESSURE SYSTEM. THE OXYGEN HOSE COULD BURST OR CATCH FIRE.

(18) Do not connect the low pressure oxygen hoses in the high pressure system.

NOTE: Flexible hose assemblies are used in the high and low pressure systems and can be connected to standard tubing connectors. Low pressure hoses operate at pressures of 100 psi and must not be installed in the high pressure system. High pressure can be greater than 1850 psi.

s 412-073

(19) Do not permit the oxygen hoses to twist, kink, or collapse.

s 212-078

ALL

CAUTION: MAKE SURE THAT LOOSE FLEXIBLE OXYGEN HOSES ARE SECURED WITH CLAMP(S). IF THE FLEXIBLE OXYGEN HOSE IS NOT INSTALLED IN THE CLAMP, DAMAGE TO THE FLEXIBLE OXYGEN HOSE CAN OCCUR.

EFFECTIVITY-

35-00-00

01



- (20) Make sure that loose flexible oxygen hoses are secured in their clamp(s) to maintain a positive separation from structures or electrical wiring or equipment.
- E. Procedure General Maintenance Data

s 792-065

- (1) Do the leak detection procedure:
  - (a) Use an approved leak detection compound to find small leaks.
    - Apply the approved leak detection compound with a soft brush on the connections that you think are a source of leaks.
    - 2) Examine all the connections for bubbles.
    - 3) Use a mirror and a light when necessary to examine areas that are not easy to see.
    - 4) Rub off leak detection compound with a clean cloth immediately after the test.

s 392-066

- (2) Seal the pipe thread with teflon tape, if it is necessary:
  - (a) Apply tape to the external threads.

NOTE: Do not apply the teflon to the last 1 1/2 to 2 1/2 threads at the end of the fitting.

- (b) Apply 1-1/2 turns of the teflon tape, pulled tight, to the pipe threads. Make sure the teflon tape does not have an overlap with the internal fitting end.
- F. Procedure Oxygen System Maintenance Practices

s 912-067

- (1) Prepare for maintenance as follows:
  - (a) Obey the safety precautions before you do the maintenance.
  - (b) Clean all tools, equipment, and fittings before you do the maintenance.
  - (c) Put on clean gloves and clean clothing during the maintenance.

CAUTION: DO NOT TIGHTEN THE OXYGEN CYLINDER VALVE TOO MUCH. DAMAGE TO THE VALVE CAN OCCUR IF YOU TIGHTEN IT TOO MUCH.

(d) Tighten the oxygen cylinder valve with your hand.

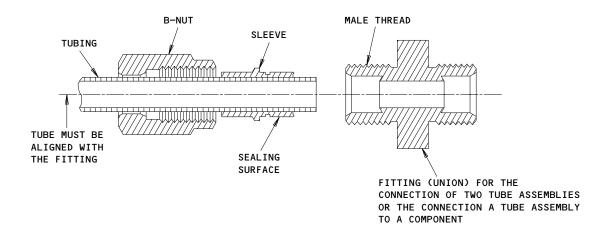
<u>NOTE</u>: Do not tighten the oxygen cylinder valve more than 25 pound-inches.

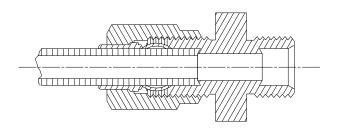
EFFECTIVITY-

35-00-00

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# TUBE AND SLEEVE ARE ALIGNED AND ENGAGED AT THE END OF THE FITTING

Tube and Fitting Installation Figure 201

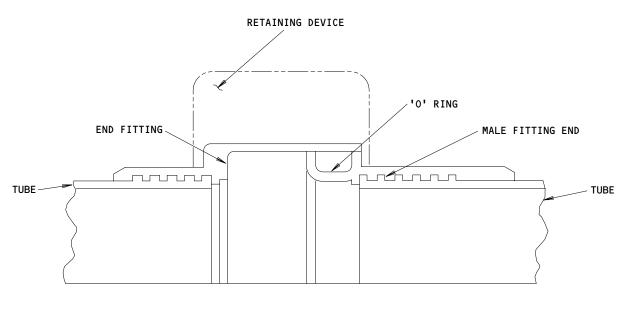
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COUPLING CROSS SECTION

Quick-Disconnect Coupling Installation Figure 202

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WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

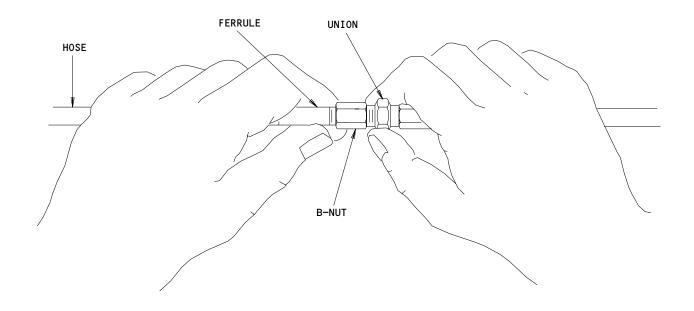
- Bleed the oxygen lines off through the normal outlet (when possible).
- Loosen the oxygen line connections (if needed), and bleed off the pressure.

### s 912-068

- (2) Do the oxygen system maintenance:
  - Loosen the fitting connections slowly with a back-up wrench to prevent damage to the fitting.
  - (b) Remove the manifold hose assembly (Fig. 201,202, and 203)

NOTE: When the oxygen box is removed the sleeve on the hose connection may stick to the union connection. If the B-nut is disengaged in this condition, it can press against the ferrule, and damage the hose.

1) Loosen the coupling nut but not more than one complete turn.



Hose Assembly Flareless Fitting Figure 203

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2) Hold the ferrule and the union (Fig. 203), and put a side load on the fitting at approximately 90° to the hose centerline.

NOTE: This will break the sleeve loose.

- 3) Disengage the B-nut.
- (c) Use caps and plugs when disconnecting oxygen components.
  - 1) Install the clean caps or plugs immediately into the open fittings and the ports.

<u>NOTE</u>: You can use new plastic caps if the cap does not engage the connector threads. Use clean metal caps if the cap engages the connector threads.

2) Seal the polyethylene bags that contain the remaining caps and plugs.

NOTE: Do not open the bag until the caps and plugs are to be used. Seal the bags immediately to prevent contamination to the remaining caps and plugs.

- (d) Install the manifold hose assembly (Fig. 201, 202, and 203).
  - 1) Align the ferrule with the union.
  - 2) Make sure that the sleeve is fully bottomed against the fitting.
  - 3) Start the B-nut with your fingers.
  - 4) Use a backup wrench to prevent rotation and possible damage.

CAUTION: DO NOT TIGHTEN THE OXYGEN HOSE MORE THAN 35 TO 45 POUND-INCHES THIS CAN CAUSE THE SLEEVE CONNECTION TO STICK.

- 5) Tighten the B-nut until it bottoms against the sleeve shoulder.
- 6) Torque to standard torque values (AMM 20-51-01/201).
- (e) Install the quick-disconnect coupling in the passenger oxygen supply (low pressure hoses)(Fig. 202)

CAUTION: DO NOT FORCE FITTINGS TOGETHER. CHIPPED OR SLICED O-RINGS WILL LEAK. DO NOT USE TUBE ASSEMBLIES IF PROTECTIVE PACKAGE IS PUNCTURED AND/OR PROTECTIVE CAPS ARE REMOVED. THE TUBE ASSEMBLIES MAY BE DAMAGED OR CONTAMINATED AND NO LONGER USEABLE IN THE OXYGEN SYSTEM.

 Align the rigid tube to rigid tube/flex hose (quick-disconnect coupling) less than two degrees of centerline.

EFFECTIVITY-

35-00-00

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CAUTION: LUBRICATE THE O-RINGS WITH KRYTOX 240AC ONLY. IF YOU DO NOT DO THIS IT CAN CAUSE DAMAGE TO THE O-RINGS.

- 2) Inspect the 0-ring to make sure no damage has occured in the installation.
- Use white cotton gloves when you install the the 0-ring on the internal end fitting
- 4) Do not remove the lubricant from the O-ring.

CAUTION: MAKE SURE TO ENGAGE THE COUPLING TO THE SECOND DETENT OR THE COUPLING CAN EASILY COME LOOSE AND FALL OFF WHEN NOT CORRECTLY LOCKED. FAILURE OF PASSENGER OXYGEN MASKS TO DROP IN THE ZONE COULD OCCUR.

5) Slide the hose or tube ends together slowly, do not force them together.

NOTE: Quick disconnect couplings snap over the hose assemblies. When you install the coupling, two detents (or points of resistance) can be felt, with the second detent locking the coupling in position.

- 6) Make sure the latch pawls are totally engaged after the installation of the retaining device.
- 7) Visually do a check of the coupling to make sure it is correctly locked to the second detent.
- (f) Install only the components that are clean.
- (g) If the component is not clean, discard the component, and install a clean component.
- (h) When you install a component, start all connectors with your hand.
- (i) Make sure the connector engages the fitting threads at least two full turns before you use a wrench.
- (j) Install the fitting connections with a back-up wrench to prevent damage to the fitting.
- (k) Tighten all the crew oxygen system tubing and fittings to the standard torques (Ref 20-51-01/201).
- (l) Examine all the connections for leaks.
- (m) If you can not stop a leak replace the defective part.

WARNING: OPEN THE OXYGEN SYSTEM VALVE SLOWLY. IF YOU OPEN OR CLOSE THE VALVES QUICKLY, THE TEMPERATURE OF THE OXYGEN CAN INCREASE. THIS CAN CAUSE A FIRE OR AN EXPLOSION.

(n) Open the oxygen shutoff valve slowly with your hand.

NOTE: The maximum torque is 25 pound-inches.

(o) Close the valve one quarter of a turn.

 35-00-00

01



(p) Install a lockwire on the valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

EFFECTIVITY-

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35-00-00

02



#### OXYGEN - CLEANING/PAINTING

#### 1. General

- These tasks are included in the procedure:
  - (1) PSU Mask Door and Adjacent Surfaces and Latch Cleaning
  - (2) Oxygen System Component Cleaning
- Make sure that when you do the installation and maintenance of the oxygen system that all work is done under clean conditions. You must make sure all work in the the oxygen system is done under clean conditions for two causes. One, the system is used in an emergency for breathing. Secondly, oxygen supports combustion when a combustible contaminant and ignition conditions are present. Thus, the contamination within the system could provide noxious or toxic fumes to the user. It could also prevent the system components from operating properly, or produce a fire and explosion. Contamination on the exterior surfaces of the oxygen system components can cause fires in the presence of oxygen leaks or ignition conditions.

NOTE: All oxygen system components must be clean and dry when installed.

TASK 35-00-00-107-001

#### 2. PSU Mask Door and Adjacent Surface and Latch Cleaning

- General
  - (1) After an extended period of time, a dust nicotine layer can collect on the PSU mask door and adjacent surfaces and latches. Due to this dust/nicotine layer, the PSU mask doors could remain closed in an emergency. These surfaces should be cleaned periodically to make sure the mask doors operate correctly.
- References
  - (1) 25-00-00/701, Equipment and Furnishings
  - (2) 35-00-00/201, 0xygen

ALL

- (3) 35-21-06/401, Passenger Oxygen Mask
- (4) 35-21-06/601, Passenger Oxygen Mask
- (5) IPC 35-21-05
- (6) IPC 35-21-06

EFFECTIVITY-

35-00-00

01.1



- C. Access
  - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 917-012

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 017-002

(2) Manually open the oxygen box doors and let the masks drop (AMM 35-21-06/401).

s 127-003

(3) Do the task: "Clean the Airplane Equipment and Furnishings" (AMM 25-00-00/701) to clean the oxygen box door, adjacent surface, and latches.

NOTE: It is only necessary to do up to the paragraph "Clean the Opaque Plastic and Painted Surfaces" which is in the task "Clean the Airplane Equipment and Furnishings".

s 217-004

(4) Do this task: "Passenger Oxygen Mask Hose- Inspection and Check" (Ref 35-21-06/601).

s 867-005

(5) Do this task: "Install PSU Oxygen Mask" (AMM 35-21-06/401).

TASK 35-00-00-107-006

- 3. <u>Oxygen System Component Cleaning</u>
  - A. Standard Tools and Equipment
    - (1) Cylinder Portable Test
    - (2) Caps and Plugs Package of Clean, Protective
    - (3) Bags Polyethylene
  - B. Consumable Materials
    - (1) G00669 Nitrogen per MIL-P-27401 (to be used with portable test cylinder) (or)
    - (2) G00000 Air Clean, Dry, with no particles or fibers more than 100 microns in the longest dimension per cubic foot of air. It must not have more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. A moisture content not to exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with a portable test cylinder.
    - (3) D00173 Krytox 240AC, MIL-G-27617 (Lubricate 0-rings if neccessary)

EFFECTIVITY-

35-00-00

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- (4) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
- C. References
  - (1) 35-00-00/201, 0xygen
- D. Access
  - (1) Location Zone

Forward Cargo Container Compartment, Aft Half Right
Upper Half Fuselage

#### E. Procedure

s 917-013

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 167-015

(2) Clean the contamination that cannot be removed with a dry cloth with solvent (Ref.CH 20), then rub the area dry.

s 167-016

CAUTION: ONLY USE CLEANING SOLVENTS ON THE OUTSIDE OF THE COMPONENTS FOR AN INSTALLED SYSTEM. DO NOT USE CLEANING SOLVENTS ON THE INSIDE OF THE OXYGEN SYSTEM COMPONENTS.

(3) Clean the components that cannot be cleaned by the above instructions using the vapor degreasing method:

<u>NOTE</u>: Components must be removed from the airplane before they are cleaned.

- (a) Disassemble the components such as the valves, regulators and oxygen cylinders.
- (b) Clean these components per the manufacturers overhaul manual.
- (c) Clean the thermal compensators by ultrasonic or vapor degreasing processes.
- (d) Clean the tubing and fittings by the vapor degreasing process. (Ref.CH 20-30)

EFFECTIVITY-

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35-00-00



s 167-010

(4) If you have cleaned the components, remove the debris that remains with air and dry with nitrogen or air.

s 167-017

(5) Rub with a clean, dry, lint-free white cotton cloth to clean the oxygen system components.

s 557-011

- (6) Store the components that are not to be installed in the airplane immediately:
  - (a) Individually seal the fittings in the polyethylene bags immediately after you have cleaned the standard BAC, NAS, AN and MS fittings.

<u>CAUTION</u>: DO NOT USE OTHER LUBRICANTS ON THE O-RINGS THAT HAVE BEEN LUBRICATED WITH KRYTOX 240AC.

- (b) Discard and replace the O-rings after the hoses are cleaned:
  - 1) If the flexible hoses for the low pressure system for oxygen contains 0-rings in the coupling asemblies.
- (c) Install protective caps or plugs to all openings of the tube assemblies and system components:
  - Use the protective caps or plugs on the standard BAC, NAS, AN and MS fittings, which were individually sealed in polyethylene bags.
  - 2) You can use protective caps that are visually clean on B-nuts and other fittings:
    - a) If the protective caps do not touch the threads or permit plastic shreads to get inside the oxygen system.
  - 3) Do not use the plastic protective plugs and caps that have been used before.
  - 4) Protective metal caps can be used again after they are cleaned.
  - 5) Do not use the plugs which can be manually pushed down in to the tubes.
  - 6) Seal the protective caps and plugs in polyethylene bags and do not open until they are ready for use.

<u>NOTE</u>: If the polyethylene bags have been used they must be sealed again immediately to prevent contamination.

- (d) Seal all tube assemblies or tube assembly ends in polyethylene bags.
- (e) Put the protective caps or plugs on the tube nuts.

 35-00-00



- (f) Do not open polyethylene bags that hold oxygen system components until immediately before the installation.
  - NOTE: If a bag contains such components and is torn or unsealed during the storage, the parts must be cleaned again.
- (g) Indentify all bags that contain oxygen system components and protective caps and plugs that have been cleaned:
  - 1) "Breathing Oxygen System Components"
  - 2) Part number and the date when the part was cleaned and sealed.
- (h) If the components are sealed, put them where they will be protected from dust, moisture, lubricants and all other contaminants.

EFFECTIVITY-

35-00-00



#### THERMAL COMPENSATOR ASSEMBLY - DESCRIPTION AND OPERATION

#### 1. General

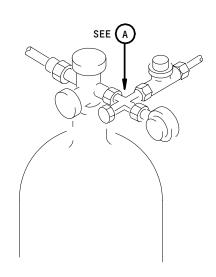
- A. Thermal compensator assemblies are installed in the oxygen system at all points at which the flow of high pressure oxygen might be limited. The thermal compensators absorb and then give off a portion of the heat generated when oxygen flows through the system. The thermal compensator will stop a temperature increase at those points.
- B. Thermal compensator assemblies consist of a brush-like wire element tightly fitted into a stainless steel tube (Fig. 1). The thermal compensator is an permanent part of the coupling assembly.

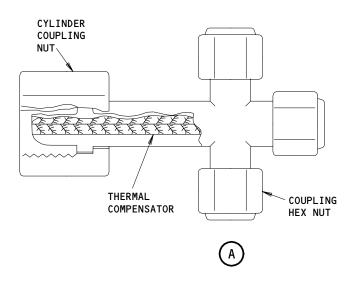
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Thermal Compensator Assembly Figure 1

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O2
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Jun 10/88

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#### THERMAL COMPENSATOR ASSEMBLY - CLEANING/PAINTING

#### 1. General

- A. A thermal compensator is installed in each coupling assembly on the oxygen cylinder. The brush-like element cannot be removed from the coupling assembly because it is welded to the housing.
- B. Make sure you install a cap on the tubing after you disconnect the tubing. This will prevent contamination of the thermal compensator with lint or hydrocarbons.

TASK 35-00-01-107-001

#### 2. Thermal Compensator Cleaning

- A. Consumable Materials
  - (1) G00669 Nitrogen Source per MIL-P-27401 (or)
  - (2) G00000 Source of clean, dry air with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. This must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. A moisture content not exceeding 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury.
  - (3) B00036 Freon 113
- B. References
  - (1) 35-00-00/201, 0xygen
  - (2) 35-11-04/401, Pressure Reducer
  - (3) 35-21-12/401, Pressure Reducer
  - (4) IPC 35-11-03
- C. Access
  - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 917-013

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 027-003

(2) Do the task: "Pressure Reducer Removal" (Ref 35-11-04/401) to remove the coupling assembly on the crew oxygen cylinder.

NOTE: This task also removes the coupling assembly.

s 027-004

(3) Do the task: "Pressure Reducer Removal" (Ref 35-21-12/401) to remove the coupling assembly on the the passenger oxygen cylinder.

NOTE: This task also removes the coupling assembly.

EFFECTIVITY-

35-00-01

ALL

02.1



s 217-005

(4) Do a visual check for the lint or mechanical blockage.

s 967-018

- (5) If you find lint or mechanical blockage do these tasks to replace the thermal compensator with the coupling assembly:
  - "Pressure Reducer Removal" and "Pressure Reducer Installation" (Ref 35-11-04/401).
  - "Pressure Reducer Removal" and "Pressure Reducer Installation" (b) (Ref 35-21-12/401).

s 167-006

(6) If no lint or mechanical blockage is found, remove the hydrocarbons by ultrasonic cleaning or by vapor degreasing.

s 167-007

(7) Dry the thermal compensator with nitrogen or air.

EFFECTIVITY-

ALL

35-00-01



#### CREW OXYGEN SYSTEM - DESCRIPTION AND OPERATION

#### 1. General (Fig. 1)

- A. The crew oxygen system is a diluter-demand type system which delivers supplemental and protective breathing oxygen to each crew station.
- B. The crew oxygen system consists of: oxygen cylinder; cylinder coupling assembly; pressure reducer; pressure transducer; pressure regulator; mask stowage boxes; mask/regulator assemblies; overboard discharge port and indicator; and supply and distribution lines.
- C. Oxygen is supplied by a high pressure oxygen cylinder. Cylinder pressure is reduced by the pressure reducer, the pressure regulator and the mask/regulators. High pressure indication is provided by the pressure transducer.
- D. Oxygen servicing is accomplished by cylinder replacement with fully charged cylinders (Ref 12-15-08/301).

### 2. Oxygen Cylinder Assembly (Fig. 2)

- A. The crew cylinder stores gaseous oxygen for the crew oxygen system. The cylinder is located on the upper right side of the forward cargo compartment. The cylinder, when filled to a pressure of 1850 psig, has the equivalent capacity of 114 cubic feet of gaseous oxygen at 760 millimeters Hg absolute and 70°F.
- B. The cylinder incorporates a slow-opening shutoff valve, a pressure indicator and a safety relief device which bursts before pressure reaches a value that could damage the cylinder, tubing or components. The safety relief device consists of an outlet port with a frangible disc that will rupture, in event of excessive pressure, to discharge the cylinder overboard through a port in the airplane skin.

#### 3. Cylinder Coupling Assembly (Fig. 3)

- A. A cylinder coupling assembly is installed on the crew oxygen cylinder outlet fitting. It provides close-coupled mounting connections for the pressure transducer and pressure reducer.
- B. A brush-like wire element, approximately 3 inches long inserted tightly into the coupling assembly, functions as a thermal compensator to prevent oxygen temperature extremes when the system is being used.

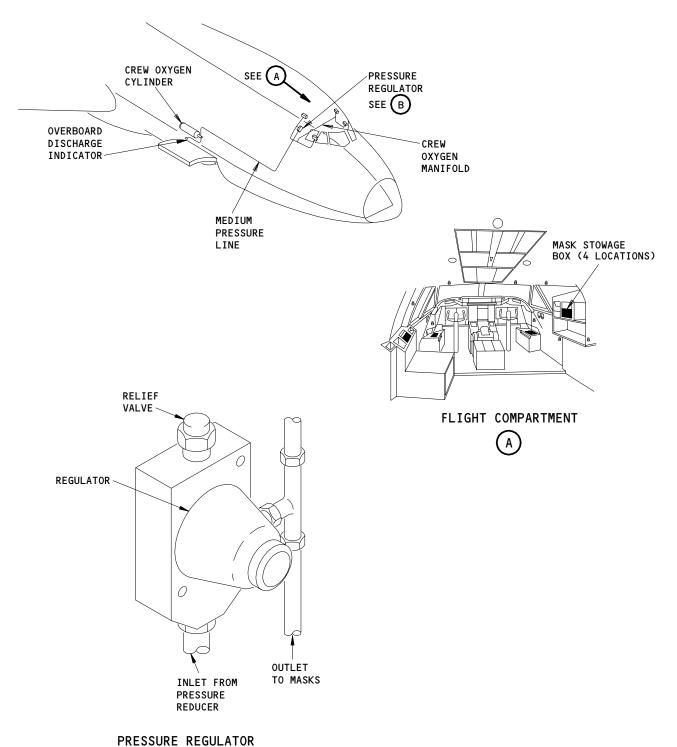
#### 4. Pressure Reducer (Fig. 3)

- A. The pressure reducer attaches to the cylinder coupling assembly and decreases cylinder pressure to an intermediate value before it is further reduced by the pressure regulator. Due to extensive length of the distribution lines between the cylinder coupling assembly and the pressure regulator, use of the reducer provides safer system operating pressures.
- B. The reducer decreases cylinder pressure of 600 to 1850 psig to a pressure of 600 to 680 psig. If cylinder pressure should fall below 600 psig reducer outlet pressure would be approximately equal to cylinder pressure. The pressure reducer will lockup at 600 830 psig if the downstream flow is closed off. Normal operating pressure occurs when the downstream flow is open or there is sufficient flow.

EFFECTIVITY ALL

35-11-00





Crew Oxygen - Component Location Figure 1

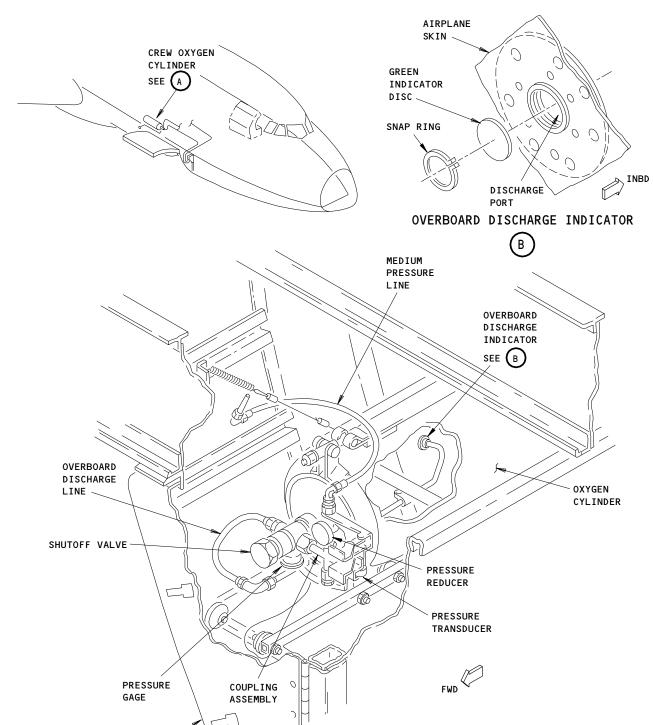
В

35-11-00

02

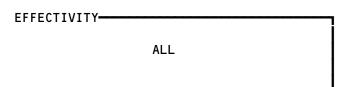
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Crew Oxygen Cylinder Assembly Figure 2

CREW OXYGEN CYLINDER



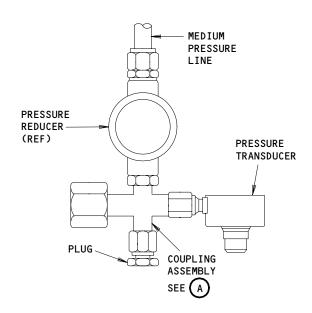
ACCESS DOOR

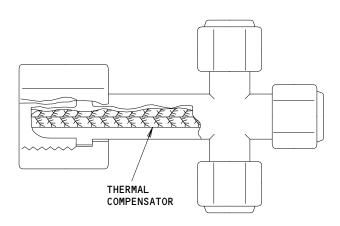
35-11-00

02

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# COUPLING ASSEMBLY WITH AN INTEGRAL THERMAL COMPENSATOR



Cylinder Coupling Assembly Figure 3

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35-11-00

02

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#### 5. Pressure Transducer (Fig. 3)

A. High pressure indication is achieved through a pressure transducer which is a component of the cylinder coupling assembly. The transducer senses cylinder pressure and converts it to a variable electrical signal which is fed to the EICAS.

#### 6. Overboard Discharge Port and Indicator (Fig. 1)

A. The discharge indicator is a plastic disc installed in the overboard discharge port located just aft of the forward cargo door. The indicator will rupture if an oxygen cylinder safety valve opens causing pressure in the overboard discharge line to build up to 500 psi. The purpose of the indicator is to provide a visual indication of an excessive pressure condition in the high pressure system while preventing entry of foreign objects, insects, etc.

#### 7. Pressure Regulator (Fig. 1)

A. The pressure regulator reduces oxygen pressure from the pressure reducer to 60 to 85 psig. A pressure relief valve, discharging into the cabin, is included in the regulator to protect the system downstream of the regulator. The regulator is located in the aft right sidewall dripshield in the flight compartment.

### 8. Mask Stowage Box (Fig. 4)

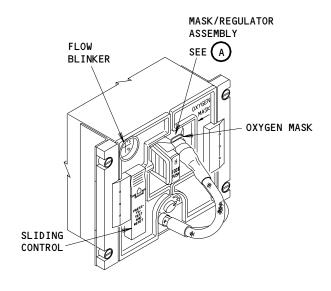
- A. A mask stowage box is located at each crew station.
- B. The box provides stowage for the mask/regulator and controls flow of oxygen to the mask/regulator. The box contains a sliding control, a shutoff valve, left and right lids and a flow blinker.
- C. The sliding control automatically keeps the shutoff valve in the closed position when the mask/regulator is stowed and both lids are closed. Holding the sliding control in TEST allows the mask/regulator to be tested when in the stowed position. The inner part of the sliding control has a white flag marked OXY-ON.
- D. The left lid controls the shutoff valve when the mask/regulator is removed from the box. The left lid also moves the sliding control's white flag to the exposed position when the mask/regulator is removed and the left lid is closed.
- E. The flow blinker contains a yellow diaphragm and a black diaphgram. When oxygen flow occurs, the yellow diaphragm is pushed up against the black diaphragm causing a yellow cross to appear.

#### 9. Mask/Regulator Assembly (Fig. 4)

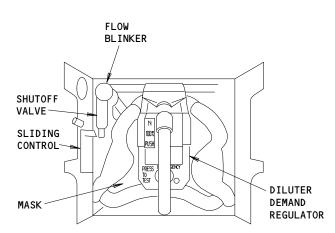
- A. A mask/regulator assembly is provided at each crew station. A mask/regulator is stowed in each mask stowage box.
- B. The mask/regulator contains an oxygen mask with a microphone, an inflatable harness, and a diluter demand regulator.
- C. The mask harness is inflated with oxygen by pressing the harness inflation ears on the diluter demand regulator. The harness inflates rapidly to a large, round and rigid shape; allowing the user to rapidly don the mask/regulator. Releasing the inflation ears deflates the harness and allows it to conform to head shape.
- D. The diluter demand regulator has three manual controls harness inflation ears, an oxygen dilution control, and a PRESS TO TEST knob.
  - (1) The harness inflation ears are used to inflate and deflate the mask harness.

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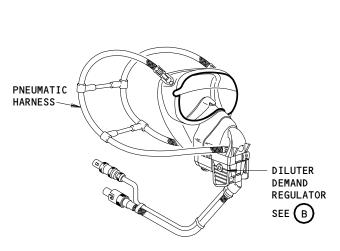




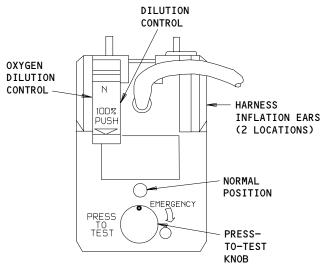
MASK IN BOX (LIDS CLOSED)



MASK IN BOX (LIDS OPEN)



MASK/REGULATOR ASSEMBLY (SHOWN INFLATED)



DILUTER DEMAND REGULATOR

Mask/Regulator Assembly Figure 4

35-11-00

80

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- (2) The oxygen dilution control is used to select a flow of 100 percent oxygen.
- (3) The PRESS TO TEST knob has two functions. One, rotating the knob provides a positive flow of oxygen under pressure. The oxygen dilution control must be at 100 percent for this to occur. Two, depressing the knob allows the regulator to be tested when the mask regulator is in the mask stowage box.

#### 10. Operation (Fig. 5)

- A. Functional Description
  - (1) The crew oxygen system stores gaseous oxygen under high pressure and supplies oxygen to each crew member at low pressure.
    - (a) High pressure oxygen flows from the cylinder into the cylinder coupling assembly, then into the attached pressure reducer.

      The pressure reducer takes an input pressure range of 1850 to 600 psig and reduces it to an output range of 600 to 680 psig.
    - (b) Attached also to the cylinder coupling assembly is a pressure transducer which transmits an electrical signal to the EICAS.
    - (c) The medium range pressure plumbing consists of a line from the pressure reducer outlet to the pressure regulator in the flight deck.
    - (d) The pressure regulator reduces inlet pressure to an outlet pressure ranging from 60 to 85 psig. The pressure regulator relief valve opens when the outlet pressure exceeds 100 to 110 psig to protect the system components downstream.
    - (e) Oxygen flows from the pressure regulator to each mask stowage box. Operation of the system is automatic when the cylinder shutoff valves are open and the mask/regulator is removed from the stowage box. Control is by the individual mask/regulator.
  - (2) Normal Mode

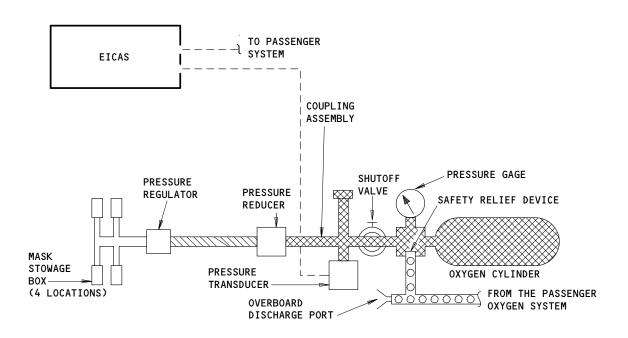
ALL

- (a) When the mask/regulator is stowed and lids are closed, the shutoff valve is kept in closed position by means of the sliding control. Consequently, neither spillage nor flow through the regulator in any condition is permitted in the stowed position.
- (b) When the mask/regulator is taken out of the mask stowage box, the subsequent opening of lids releases the shutoff valve piston and allows the valve to open.

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35-11-00





LEGEND
LOW PRESSURE
MEDIUM PRESSURE
HIGH PRESSURE
DOOOD DISCHARGE LINE

Crew Oxygen Flow Diagram Figure 5

ALL

O2

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- (c) After the mask/regulator has been taken out of the mask stowage box, the lids can be closed without shutting off the pressure supply to the regulator. When closing the left-side lid, the inner part of the sliding control rotates and shows the white flag marked OXY-ON. During mask/regulator restowing, it is necessary to pull on the sliding control in order to reset the ON-OFF position. The white flag creates a protrusion which prevents restowing of mask/regulator with the shutoff valve in the ON position.
- During oxygen flow a yellow cross appears on the flow blinker on the mask stowage box. During no flow conditions, the flow blinker is all black.
- Depressing the harness inflation ears will inflate the mask harness. Donning the mask/regulator and releasing the harness inflation ears deflates the harness and allows the mask to conform to head shape.
- (f) Normal operation provides oxygen on demand and is obtained by rotating the PRESS TO TEST knob to normal (non-emergency) position and moving the oxygen dilution control to N. During the users inhalation phase, a pressure difference occurs across the demand diaphragm. This allows a valve to open and oxygen to flow to the user. The oxygen is diluted with cabin air. The amount of air is controlled by an aneroid which controls the oxygen/air ratio according to cabin altitude.
- 100 Percent Oxygen Mode
  - (a) With the mask/regulator being donned by the user, moving the oxygen dilution control to 100 percent and rotating the PRESS TO TEST knob to the normal (non-emergency) position provides a supply of pure oxygen to the user. Flow to the user is controlled on a demand basis by normal breathing.
- (4) Emergency Mode
  - With the mask being donned by the user, moving oxygen diluter lever to 100 percent and rotating the PRESS TO TEST knob to EMERGENCY provides a positive flow of pure oxygen to the user. In this mode, flow to the user in not controlled by users inhalation cycle.

#### Control В.

- With 28-volt dc power available at the battery bus, close the OXYGEN VALVE & IND circuit breaker on the P7 Overhead Circuit Breaker Panel and check the EICAS for system pressure.
- (2) Remove the mask/regulator from the mask stowage box.
- (3) Press the harness inflation ears on the regulator to inflate the harness. Continue to press inflation ears.
- Flow blinker on mask stowage box shows a yellow cross indicating oxygen flow.
- After a few seconds flow blinker turns all black indicating oxygen flow has stopped.
- Don mask and release harness inflation ears. Mask harness will deflate and conform to head shape.

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- (7) To operate the system using different modes of operation, the controls on the mask/regulator must be positioned as follows:
  - (a) Normal mode
    - 1) Oxygen dilution control at N.
    - 2) PRESS TO TEST knob rotated to normal (non-emergency) position.
  - (b) 100 Percent Oxygen Mode
    - 1) Oxygen dilution control an 100 percent.
    - 2) PRESS TO TEST knob rotated to normal (non-emergency) position.
  - (c) Emergency Mode
    - 1) Oxygen dilution control at 100 percent.
    - 2) PRESS TO TEST knob rotated to EMERGENCY.
- (8) When using the normal or 100 percent oxygen modes, oxygen should flow into the mask by normal breathing. In the emergency mode, flow to the mask is constant and not controlled by breathing.

EFFECTIVITY-

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35-11-00



## **CREW OXYGEN SYSTEM**

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BOX - MASK STOWAGE	1	4	FLIGHT COMPARTMENT	35-11-18
CIRCUIT BREAKER -			FLIGHT COMPARTMENT, P7	
OXYGEN VALVE & IND, C364		1	7D4	*
COMPUTER - (FIM 31-61-00/101)			FWD CARGO COMPT RIGHT SIDEWALL	
EICAS INTERFACE UNIT CENTER, M7352		1		
EICAS INTERFACE UNIT LEFT, M7353		1		
EICAS INTERFACE UNIT RIGHT, M7351		1		
COUPLING - ASSEMBLY	2	1	FWD CARGO COMPT RIGHT SIDEWALL	35-11-04
CYLINDER - CREW OXYGEN	1	1	FWD CARGO COMPT RIGHT SIDEWALL	12-15-08
GAGE - PRESSURE	2	1	FWD CARGO COMPT RIGHT SIDEWALL	35-11-00
INDICATOR - OVERBOARD DISCHARGE	2	1	FWD CARGO COMPT RIGHT SIDEWALL (OUTSIDE ON AIRPLANE SKIN)	35-11-10
MASK	3	4	FLIGHT COMPARTMENT	35-11-18
REDUCER - PRESSURE	2 3	1	FWD CARGO COMPT RIGHT SIDEWALL	35-11-04
REGULATOR - DILUTER DEMAND		4	FLIGHT COMPARTMENT	35-11-18
REGULATOR - PRESSURE		1	FLIGHT COMPARTMENT	35-11-05
TRANSDUCER - PRESSURE, T470	2	1	FWD CARGO COMPT RIGHT SIDEWALL	35-11-03

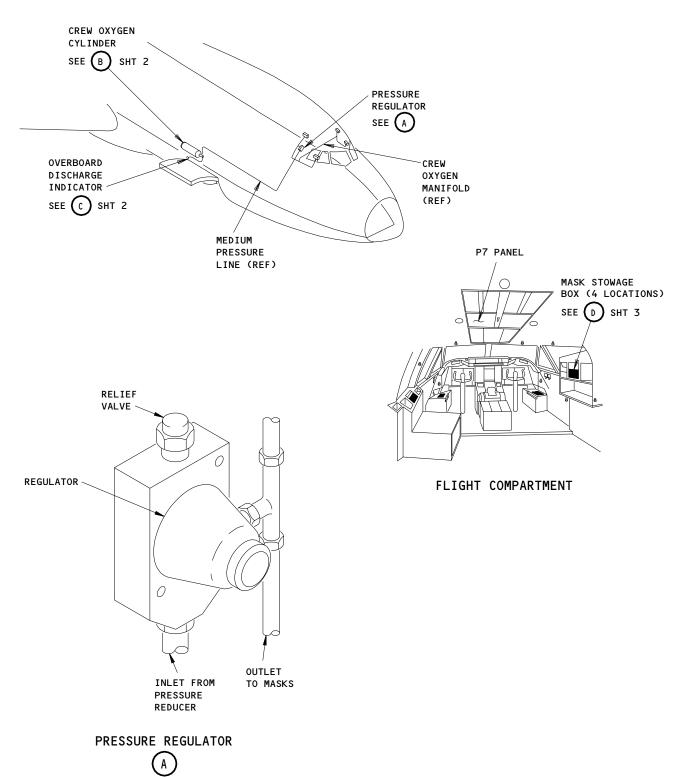
<sup>\*</sup> SEE THE WDM EQUIPMENT LIST

Crew Oxygen System - Component Index Figure 101

EFFECTIVITY-

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Crew Oxygen System - Component Location Figure 102 (Sheet 1)

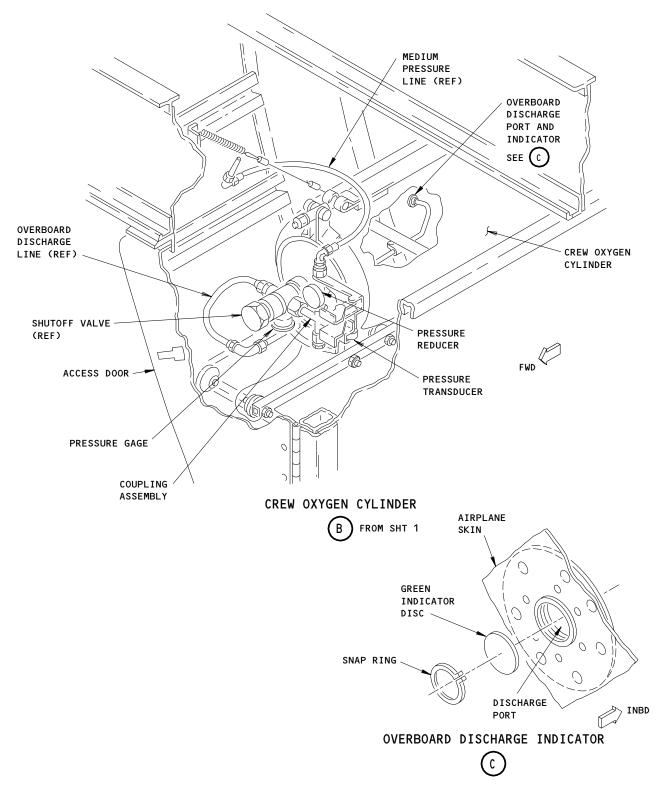
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Crew Oxygen System - Component Location Figure 102 (Sheet 2)

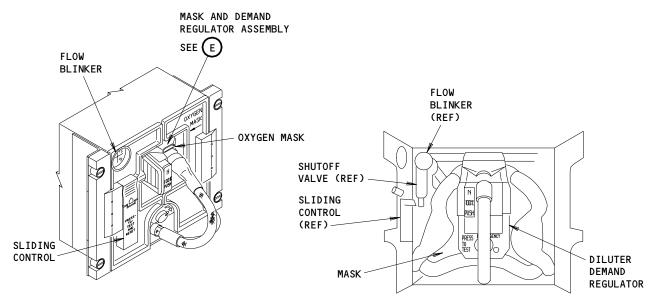
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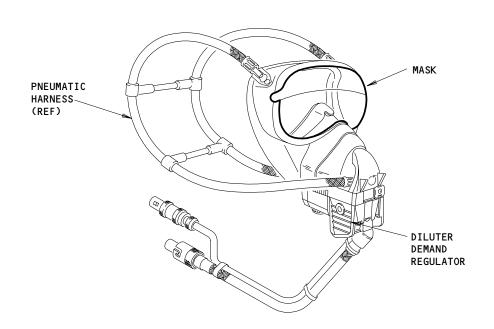


MASK STOWAGE BOX (LIDS CLOSED)

FROM SHT 1

MASK STOWAGE BOX (LIDS OPEN)

FROM SHT 1



MASK AND DEMAND REGULATOR ASSEMBLY (SHOWN INFLATED)



Crew Oxygen System - Component Location Figure 102 (Sheet 3)

EFFECTIVITY-ALL 35-11-00

06

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### CREW OXYGEN SYSTEM - FAULT ISOLATION

#### 1. General

- A. The crew oxygen system is a diluter-demand type system which supplies supplemental and protective breathing oxygen to each crew station.
- B. The fault isolation for the crew oxygen uses visual checks, system tests, EICAS display units and other test equipment. This equipment isolates the problem and supplies a solution.
- It may be necessary to supply electrical power to the EICAS and other systems to do the fault isolation porcedures for the crew oxygen system.
- 2. Fault Isolation Procedures

Fig. 103 Crew Oxygen Pressure Indicator Abnormal

 35-11-00

#### **PREREQUISITES**

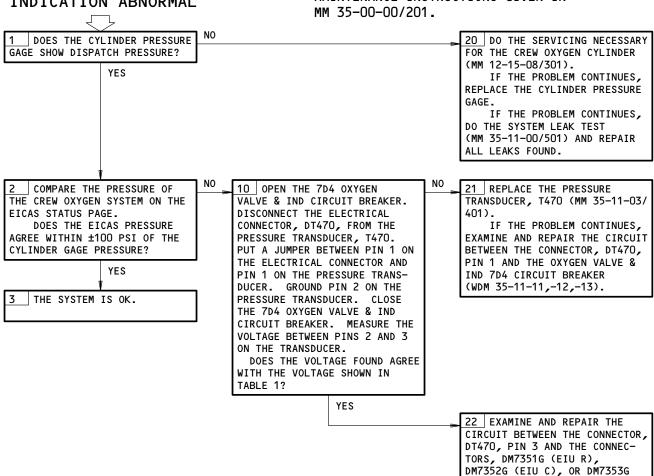
ELECTRICAL POWER (MM 24-22-00/201)
APPLY POWER TO EICAS (MM 31-61-00/201)

CB'S: 7D4

# CREW OXYGEN PRESSURE INDICATION ABNORMAL

WARNING: BEFORE MAINTENANCE, EXAMINE THE OXYGEN

SYSTEM SAFETY PRECAUTIONS AND GENERAL MAINTENANCE INSTRUCTIONS GIVEN IN



Crew Oxygen Pressure Indication Abnormal Figure 103 (Sheet 1)

35-11-00

(EIU L)(WDM 35-11-12,-13).



#### EXAMPLE:

THE DC VOLTAGE IS APPROXIMATELY 3.65V, IF THE PRESSURE INPUT IS 1625 PSIG.

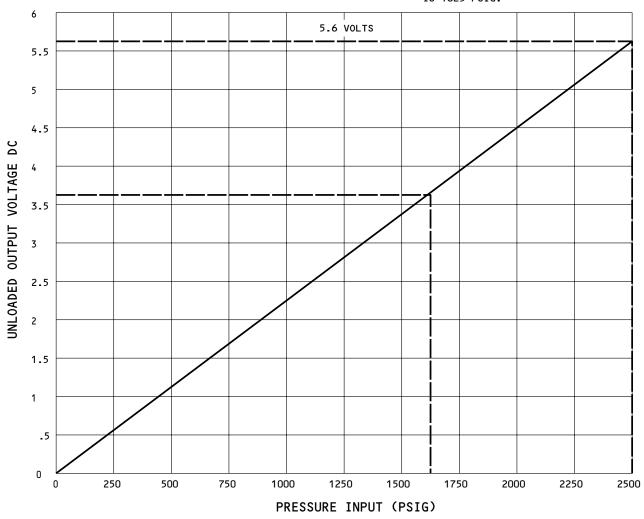


TABLE 1

Crew Oxygen Pressure Indication Abnormal Figure 103 (Sheet 2)

601333

35-11-00

01

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#### CREW OXYGEN SYSTEM - ADJUSTMENT/TEST

#### 1. General

- A. These tasks are included in the procedure:
  - (1) Operational Test
  - (2) Crew Oxygen Pressure Indication Test
  - (3) Crew Oxygen Mask, Stowage Box Test (In-Situ)
  - (4) Crew Oxygen Mask/Regulator Test
  - (5) System Leak Test
  - (6) Crew Oxygen Pressure Reducer and Pressure Regulator Test.
- B. The operational test is a minimum check to find if the system will operate correctly. No equipment is needed to do this test.
  - (1) The operational test includes the pressure indication test and a in-situ test of the mask and demand regulator stowage box.
- C. The system test is done when sufficient maintenance has been completed and you are sure the system is in satisfactory condition. It is a complete check of each component to make sure it will function and operate within the system.
  - (1) The system test includes; a system leak test, a pressure indication test, a mask and demand regulator and stowage box test. It also includes a functional test of the pressure reducer, and a pressure regulator test.

TASK 35-11-00-715-193

- 2. <u>Crew Oxygen Operational Test</u>
  - A. References
    - (1) AMM 20-41-01/201, Static Grounding
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 35-00-00/201, Oxygen
    - (4) FIM 31-61-00/101, EICAS
  - B. Access
    - (1) Location Zones
      - 124 Forward Cargo Container Compartment, Aft Half Right
      - 221 Control Cabin, Left
      - 222 Control Cabin, Right
  - C. Preconditions

s 865-251

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical power on (AMM 24-22-00/201).
  - (b) Integrated Display System (IDS), serviceable (AMM 31-61-00/501)

EFFECTIVITY-

35-11-00



- (c) Crew Oxygen System in serviceable condition (AMM 35-21-00/501).
- (d) Airplane must be in the Ground Mode (AMM 32-09-02/201).
- D. Procedure

s 915-194

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 715-195

(2) Do the task: "Crew Oxygen Pressure Indication Test".

s 715-192

(3) Do the task: "Crew Oxygen Mask, Demand Regulator and Stowage Box In-Situ Test".

TASK 35-11-00-705-001

- Crew Oxygen Pressure Indication Test
  - A. References
    - (1) AMM 20-41-01/201, Static Grounding
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 31-61-00/501, Integrated Display System (IDS)
    - (4) AMM 32-09-02/201, Air/Ground Relays
    - (5) AMM 35-21-00/501, Crew Oxygen System
    - (6) AMM 35-00-00/201, Oxygen
  - B. Access
    - (1) Location Zones

124 Forward Cargo Container Compartment, Aft Half Right

221 Control Cabin, Left

222 Control Cabin, Right

C. Preconditions

s 865-252

ALL

- (1) These conditions are necesarry for this task:
  - (a) Electrical power (AMM 24-22-00/201).
  - (b) Integrated Display System (IDS), serviceable (AMM 31-61-00/501).

EFFECTIVITY-

35-11-00



- (c) Crew Oxygen System serviceable (AMM 35-21-00/501).
- (d) Airplane must be in ground mode (AMM 32-09-02/201).
- D. Procedure

s 915-158

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-057

(2) Make sure the airplane is electrically grounded (AMM 20-41-01/201).

s 865-002

(3) Supply the electrical power (AMM 24-22-00/201).

s 865-107

(4) Open the access door to the crew oxygen cylinders.

s 865-003

(5) Make sure the shutoff valve on each crew oxygen cylinder is open.

NOTE: Some airplanes have an optional second crew oxygen cylinder.

s 865-005

- (6) Close these circuit breakers and attach DO-NOT-REMOVE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7F8 UPR EICAS
    - 3) 7F9 EIU L
    - 4) 7F10 EIU C 5) 7F14 LWR EICAS
    - 6) 7F15 EIU R

s 865-006

(7) Set the EIU select switch on the P2-4 panel to L.

s 785-008

(8) Make sure that the pressure shown on the EICAS is in 100 psi of the oxygen cylinder pressure.

s 865-011

(9) Set the EIU select switch on the P2-4 panel to C.

s 785-013

(10) Make sure the pressure shown on the EICAS is in 100 psi of the oxygen cylinder pressure.

s 865-016

(11) Set the EIU select switch on the P2-4 panel to R.

EFFECTIVITY-

35-11-00

ALL



s 785-017

(12) Make sure the pressure shown on the EICAS is in 100 psi of the oxygen cylinder pressure.

s 865-108

(13) Close the access door to the crew oxygen cylinders.

s 865-058

(14) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

TASK 35-11-00-715-204

4. Crew Oxygen Stowage Box Test (In-Situ)

NOTE: The In-Situ test is done at each crew station.

- A. References
  - (1) AMM 20-41-01/201, Static Grounding
  - (2) AMM 24-22-00/201, Manual Control
  - (3) AMM 35-00-00/201, Oxygen
- B. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right
    - 221 Control Cabin, Left
    - 222 Control Cabin, Right
- C. Preconditions

s 865-253

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical power (AMM 24-22-00/201).
  - (b) Airplane must be in the ground mode (AMM 32-09-02/201).
  - (c) Crew Oxygen System in serviceable condition (AMM 35-21-00/501).
- D. Procedure

s 915-190

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-059

(2) Make sure the airplane is electrically grounded (AMM 20-41-01/201).

s 865-160

(3) Supply the electrical power (AMM 24-22-00/201).

s 865-161

(4) Open the access door to the crew oxygen cylinders.

EFFECTIVITY-

35-11-00

ALL



S 865-162

(5) Make sure the shutoff valve on each crew oxygen cylinder is open.

NOTE: Some airplanes have an optional second crew oxygen cylinder.

S 865-164

(6) Close these circuit breakers and attach DO-NOT-REMOVE tags:

(a) P7 Overhead Circuit Breaker Panel

1) 7D4 OXYGEN VALVE & IND

s 715-020

(7) Move the PRESS TO TEST AND RESET control lever to the TEST position.

<u>NOTE</u>: Hold the PRESS TO TEST AND RESET lever in this position for the complete test.

s 715-021

(8) Make sure the flow blinker momentarily shows the flow and then goes out of view.

s 715-023

(9) Push the PRESS TO TEST button on the demand regulator for approximately one second and then release it.

s 715-024

(10) Make sure the flow blinker shows the flow, and then goes off when you release the PRESS TO TEST button.

s 715-027

(11) Release the stowage box PRESS TO TEST AND RESET lever.

s 715-028

(12) Make sure the lever goes back to the initial position.

s 715-029

(13) Push the N-100% control on the demand regulator to make sure it operates.

s 715-030

(14) Move the N-100% control to the normal position.

s 715-032

(15) Do the task:" Crew Oxygen Mask and Demand Regulator Stowage Box In-Situ Test" for all the other crew mask positions.

s 865-109

(16) Close the access door to the crew oxygen cylinders.

EFFECTIVITY-

35-11-00

ALL



s 865-060

(17) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

TASK 35-11-00-715-036

- Crew Oxygen Mask/Regulator Test (Fig. 502).
  - A. References
    - (1) 24-22-00/201, Electrical Power Control
    - (2) 35-00-00/201, 0xygen
  - B. Access
    - (1) Location Zones
      - 124 Forward Cargo Container Compartment, Aft Half Right
      - 221 Control Cabin, Left
      - 222 Control Cabin, Right
  - C. Preconditions

S 865-254

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical Power (AMM 24-22-00/201).
  - (b) Airplane must be in the ground mode (AMM 32-09-02/201).
  - (c) Crew Oxygen System in serviceable condition (AMM 35-21-00/501).
- D. Procedure

s 915-049

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 865-050

(2) Supply electrical power (Ref 24-22-00/201).

s 865-038

- (3) Make sure that this circuit breaker is closed:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7D4, OXYGEN VALVE & IND

s 025-039

(4) Remove the mask/regulator from the stowage box.

s 755-040

(5) Hold the mask, and push and hold the harness inflation control.

s 755-042

(6) Make sure the flow blinker becomes yellow and then black.

NOTE: This shows that the harness does not have a leak.

EFFECTIVITY-

35-11-00

ALL



s 715-051

(7) Release the button.

s 755-044

(8) Put the mask/regulator unit on your head.

NOTE: The pneumatic harness will inflate until it holds your head.

s 755-046

(9) Breathe through the mask/regulator unit with the regulator turned to dilution, and when it is turned to the "100%" position.

s 755-052

(10) Make sure you can breathe correctly in each position on the flow blinker.

s 755-048

(11) With the lever set in the "100%" position, turn the EMERGENCY control knob.

s 755-053

(12) After three breaths, cancel the emergency pressure.

s 755-047

- (13) Do these steps to do a test of the oxygen mask microphone:
  - (a) Push the FLT microphone selector switch on the audio control panel (ACP).
  - (b) Push and hold the PTT (R/T/INT) switch on the ACP to the INT position.
  - (c) Speak into the oxygen mask microphone.
  - (d) Make sure your voice can be heard on a pilot's headset or flight deck speakers.
  - (e) Release the PTT switch on the ACP.

s 415-051

(14) Put the oxygen mask/regulator in its box (AMM 35-11-18/201).

s 715-054

- (15) Make sure the captain's boom microphone operates correctly (AMM 23-51-00/501).
- E. Put the Airplane Back to Its Usual Condition

S 865-249

(1) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

TASK 35-11-00-795-033

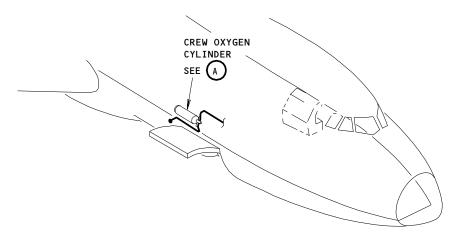
6. Crew Oxygen Leak Test

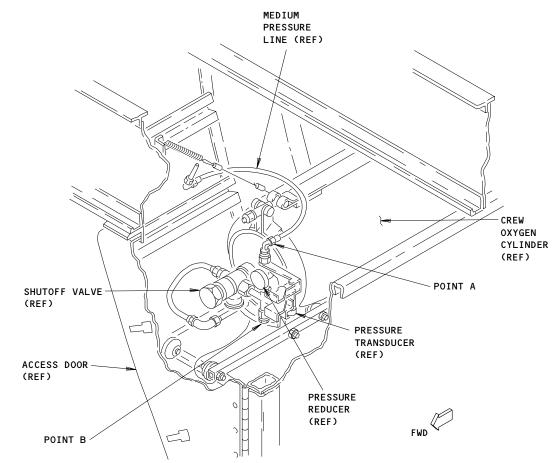
EFFECTIVITY-

35-11-00

ALL







## CREW OXYGEN CYLINDER



Test Connections Figure 501

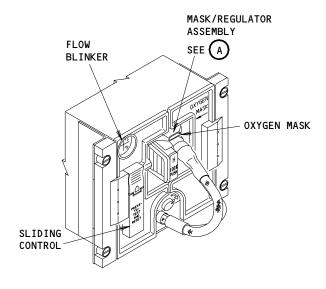
EFFECTIVITY-ALL

35-11-00

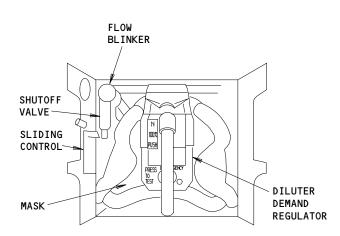
02

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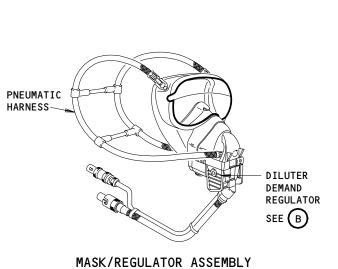




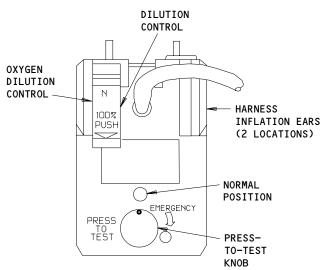
MASK IN BOX (LIDS CLOSED)



MASK IN BOX (LIDS OPEN)



(SHOWN INFLATED)



DILUTER DEMAND REGULATOR

Mask/Regulator Assembly Figure 502

ALL ALL

A80557

35-11-00

01

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- A. General
  - (1) The leak test of the crew oxygen system is done with a portable test cylinder.
- B. Standard Tools and Equipment
  - (1) Cylinder Portable Test (0-1850 psi) Scott Aviation, 225 Erie Street, Lancaster N.Y. (if applicable)
  - (2) Gage Pressure, 0-150 psi
  - (3) Gage Pressure, 0-2000 psi, with an accuracy of 2-1/2 percent with no more than 100 psi graduation, and a diameter of not less than 4 inches.
  - (4) Caps or Plugs Package of Clean, Protective
  - (5) Hoses Flexible, Clean High Pressure
  - (6) Fittings Tee, Clean (as applicable)
- C. Consumable Materials
  - (1) G00669 Nitrogen per MIL-P-27401 (to be used with portable test cylinder) (or)
  - (2) G00000 Air Clean, Dry, with no particles or fibers greater than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. A moisture content not to exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with a portable test cylinder.
  - (3) GO0019 OXYGEN Chemical Gaseous per MIL-0-27210 Type 1 (to be used with the portable test cylinder)
  - (4) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - (5) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
  - (6) G10505 Copper Lockwire 0.020 inch diameter

### G10505

- D. References
  - (1) AMM 20-41-01/201, Static Grounding
  - (2) AMM 24-22-00/201, Manual Control
  - (3) AMM 35-00-00/201, Oxygen
  - (4) WDM 35-11-11, 35-11-12, 35-11-13
  - (5) SSM 35-11-01
- E. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right
    - 221 Control Cabin, Left
    - 222 Control Cabin, Right
- F. Preconditions

S 865-255

(1) Electrical Power (AMM 24-22-00/201).

s 865-256

(2) Airplane must be in the ground mode (AMM 32-09-02/201).

EFFECTIVITY-

35-11-00

ALL

02.1



s 865-257

(3) Crew Oxygen System in serviceable condition (AMM 35-21-00/501).

G. Procedure

s 915-189

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 865-061

(2) Make sure the airplane is electrically grounded (AMM 20-41-01/201).

s 865-110

(3) Open the access door to the crew oxygen cylinder.

S 865-035

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on each crew oxygen cylinder slowly.

NOTE: Some airplanes have an optional second crew oxygen cylinder.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 865-036

WARNING: LOOSEN THE SUPPLY LINE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN BE AS HIGH AS 1850 PSI AND CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(5) Slowly disconnect one of the supply lines from a pressure reducer outlet (point A, Fig. 501).

EFFECTIVITY-

35-11-00



s 025-271

- (6) Do the steps that follow:
  - (a) Put a cap on the pressure reducer outlet to prevent contamination of the system.
  - (b) Use a high-pressure hose and tee fitting to connect the portable test cylinder and a pressure gage (0-2000 psi) to the medium pressure line.

S 865-063

WARNING: OPEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(7) Open the shutoff valve on the portable test cylinder slowly and pressurize the system between 1700 and 1800 psig.

S 865-043

CAUTION: DO NOT TORQUE THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(8) After the system has become stable, close the shutoff valve on the portable test cylinder.

s 785-044

(9) Make sure the pressure does not decrease at a rate more than 15 psig per hour on the 0-2000 psi pressure gage.

NOTE: Monitor the leakage rate for at least 30 minutes.

s 795-045

(10) If the gage shows an unacceptable pressure decrease, do a check for leaks as follows:

WARNING: OPEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE WHICH CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Open the shutoff valve on the portable test cylinder.
- (b) Do a check of all the connections for leaks with the leak detection compound.
- (c) Rub the leak detection compound off with a clean cotton cloth immediately after you do the check.

EFFECTIVITY-

35-11-00



H. Put the Airplane Back to its Usual Condition

s 085-061

(1) Close the shutoff valve on the portable test cylinder shutoff.

The shutoff valve can be closed by your hand which is equivalent to 25 pound-inches.

s 085-047

WARNING: LOOSEN THE SUPPLY LINE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN BE AS HIGH AS 1850 PSI AND CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(2) Slowly disconnect the portable test cylinder, 0-2000 psi pressure gage, flexible hoses, and the tee fittings.

s 865-073

LOOSEN THE SUPPLY LINE CONNECTIONS CAREFULLY. THE REMAINING WARNING: OXYGEN CAN BE AS HIGH AS 1850 PSI AND CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(3) Remove the cap and connect the fittings to points A and B (Fig. 501).

s 865-055

ALL

WARNING: OPEN THE SHUTOFF VALVE ON EACH CREW OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND **EQUIPMENT.** 

- Open the shutoff valves on each crew oxygen cylinder as follows:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: But, do not torque the shutoff valve more than 25 pound-inches. This is equivalent to a torque which is tightened by your fingers.

- Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

EFFECTIVITY-

35-11-00



s 795-274

(5) Do a check of the connections at points A (Fig. 501) for leaks with the leak detection compound.

s 035-197

(6) Rub the leak detection compound off with a clean cotton cloth immediately after the check.

s 865-111

(7) Close the access door to the crew oxygen cylinder.

S 865-062

(8) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

TASK 35-11-00-795-205

- 7. Crew Oxygen System Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 35-00-00/201, Oxygen
  - B. Access
    - (1) Location Zone
      - 124 Forward Cargo Container Compartment, Aft Half Right
      - 221 Control Cabin, Left
      - 222 Control Cabin, Right
  - C. Procedure

s 915-171

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-172

(2) Supply the electrical power (AMM 24-22-00/201).

S 865-173

(3) Open the access door to the crew oxygen cylinders.

s 865-175

(4) Make sure shutoff valve on each crew oxygen cylinder is open.

NOTE: Some airplanes have an optional second crew oxygen cylinder.

S 865-176

- (5) Close these circuit breakers and attach DO-NOT-REMOVE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

EFFECTIVITY-

35-11-00



s 715-206

(6) Do the task: Crew Oxygen Pressure Indication Test.

<u>NOTE</u>: It is not necessary to do the step "Put Back in the Initial Condition" part of the test.

D. Do the Mask Demand/Regulator and Stowage Box Test in the crew oxygen.

NOTE: This test is done at all crew stations.

s 715-199

(1) Do the task: "Crew Oxygen Pressure Indication Test".

s 865-075

(2) Remove the mask and the demand/regulator from the stowage box (Ref 35-11-18/201).

s 735-106

(3) Make sure the N-100% control is at the N and the PRESS TO TEST knob is at non-emergency.

s 865-076

(4) Push the harness inflation ears on the demand/regulator and hold in position.

s 735-077

(5) Make sure the flow blinker on stowage box momentarily shows flow and then goes off.

s 865-078

(6) Put the mask and demand/regulator on and release the harness inflation ears.

s 735-079

(7) Make sure the harness deflates and goes down to the head shape.

s 865-080

(8) Close the stowage box doors.

s 715-207

(9) Breathe through the mask.

s 735-081

(10) Make sure the flow blinker shows flow when you inhale.

s 715-208

(11) Make sure you can breathe without difficulty.

EFFECTIVITY-

35-11-00

ALL



S 865-084

(12) Turn the PRESS TO TEST knob to EMERGENCY.

s 735-085

(13) Breathe thru the mask, and make sure you can breathe without difficulty.

S 865-248

(14) Turn the PRESS TO TEST knob to non-emergency.

s 865-087

(15) Make sure the N-100% control can be moved to the N position.

s 015-209

(16) Move the N-100% control to the 100% position.

s 865-088

(17) Push the harness inflation ears on the demand/regulator and remove the mask and demand/regulator from your head.

s 715-210

(18) Release the inflation ears.

s 735-070

- (19) Do these steps to do a test of the oxygen mask microphone:
  - (a) Push the FLT microphone selector switch on the audio control panel (ACP).
  - (b) Push and hold the PTT (R/T/INT) switch on the ACP to the INT position.
  - (c) Speak into the oxygen mask microphone.
  - (d) Make sure your voice can be heard on a pilot's headset or flight deck speakers.
  - (e) Release the PTT switch on the ACP.

s 865-090

(20) Put the mask and demand/regulator in the stowage box (AMM 35-11-18/201).

s 735-091

(21) Do the task: "Crew Oxygen Mask and Demand/Regulator Stowage Box Test" for all the other crew stations with the crew mask.

S 865-114

ALL

(22) Close the access door to the crew oxygen cylinders.

EFFECTIVITY-

35-11-00



s 725-200

(23) Do the task: "Crew Oxygen Pressure Reducer and Pressure Regulator Test"

### TASK 35-11-00-725-198

- 8. <u>Crew Oxygen Pressure Reducer and Pressure Regulator Test</u>
  - A. Standard Tools and Equipment
    - (1) Gage Pressure, 0-2000 psi
    - (2) Hoses Flexible, Clean High Pressure
    - (3) Fittings Tee, Clean (as applicable)
  - B. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
    - (3) G01505 Copper Lockwire 0.020 inch diameter

G01505

- C. References
  - (1) AMM 20-41-01/201, Static Grounding
  - (2) AMM 24-22-00/201, Manual Control
  - (3) AMM 35-00-00/201, Oxygen
- D. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right
    - 221 Control Cabin, Left
    - 222 Control Cabin, Right
- E. Preconditions

s 865-258

(1) Electrical Power (AMM 24-22-00/201).

S 865-259

(2) Airplane must be in the ground mode (AMM 32-09-02/201).

s 865-260

- (3) Crew Oxygen System in serviceable condition (AMM 35-21-00/501).
- F. Prepare to Do the Test

S 925-244

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-070

(2) Make sure the airplane is electrically grounded (AMM 20-41-01/201).

s 865-245

(3) Supply the electrical power (AMM 24-22-00/201).

S 865-122

(4) Open the access door to the crew oxygen cylinder.

EFFECTIVITY-

35-11-00

ALL



S 865-147

CAUTION: DO NOT TORQUE THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(5) Close the shutoff valve on each crew oxygen cylinder slowly.

NOTE: Some airplanes have an optional second crew oxygen cylinder.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

G. Do a Test of the Pressure Reducer

S 865-149

WARNING: LOOSEN THE SUPPLY LINE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN BE AS HIGH AS 1850 PSI AND CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(1) Slowly disconnect the supply line from the pressure reducer outlet (Point A, Fig. 501).

S 485-064

(2) Connect the 0-2000 psi pressure gage to the pressure reducer outlet (Point A, Fig. 501) with a clean, high-pressure flexible hose.

s 865-242

ALL

WARNING: OPEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(3) Open the shutoff valve on the oxygen cylinder.

EFFECTIVITY-

35-11-00



s 785-243

(4) Pressurize the line to minimum of 1500 psig.

S 865-128

CAUTION: DO NOT TORQUE THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(5) After system has become stable, close the shutoff valve on the oxygen cylinder.

s 785-129

(6) Make sure the pressure on the 0-2000 psi pressure gage is between 600 and 830 psig.

NOTE: This pressure is the lock up pressure which occurs when the downstream oxygen lines are closed off.

s 865-130

DO NOT TORQUE THE SHUTOFF VALVE ON THE OXYGEN CYLINDER MORE CAUTION: THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(7) Close the shutoff valve on the oxygen cylinder.

s 085-150

(8) Slowly disconnect the 0-2000 psi pressure gage and the flexible hose from the pressure reducer outlet (Point A, Fig. 501).

S 865-134

ALL

(9) Connect the supply line to the pressure reducer outlet.

EFFECTIVITY-

35-11-00



s 735-082

- (10) Do the task: "Crew Oxygen Pressure Reducer and Pressure Regulator test" for the pressure reducer on the other crew oxygen cylinder if installed.
- H. Put the System Back in its Initial Condition

s 865-151

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (1) Slowly open the shutoff valve on each crew oxygen cylinder as follows:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: But, do not torque the shutoff valve more than 25 pound-inches. This is equivalent to a torque which is tightened by your fingers.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 795-137

(2) Do a check of the conncections for leaks (Point A, Fig. 501) with the leak detection compound.

s 035-178

(3) Rub the leak detection compound off with a clean cotton cloth immediately after you do the check.

S 865-143

(4) Close the access door to the crew oxygen cylinder.

S 865-064

- (5) Remove the electrical power if it is not necessary (AMM 24-22-00/201).
- I. Do a Test of the Pressure Regulator

s 865-065

(1) Supply the electrical power (AMM 24-22-00/201).

s 015-092

(2) Remove the closure assembly in the right coat closet to get to the pressure regulator.

EFFECTIVITY-

35-11-00

ALL



s 865-115

(3) Open the access door to crew oxygen cylinder.

S 865-067

CAUTION: DO NOT TORQUE THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on the crew oxygen cylinder(s).

NOTE: The shutoff valve can be closed by your hand which is equivalent to 25 pound-inches.

S 865-094

(5) Slowly disconnect the outlet line on the pressure regulator, and put a cap the outlet line.

S 485-095

(6) Connect the 0-150 psi pressure gage to the pressure regulator outlet.

s 865-096

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(7) Slowly open the shutoff valve on each crew oxygen cylinder as follows:

NOTE: Some airplanes have an optional second crew oxygen cylinder.

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: But, do not torque the shutoff valve more than 25 pound-inches. This is equivalent to a torque which is tighten by your fingers.

EFFECTIVITY-

ALL

35-11-00

l



(b) Close the shutoff valve one-fourth of a turn.

s 785-098

(8) Make sure the 0-150 psi pressure gage is between 60 and 85 psig.

J. Put the System Back to its Initial Condition

S 865-144

DO NOT TORQUE THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER CAUTION: MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(1) Close the shutoff valve on the crew oxygen cylinder.

The shutoff valve can be closed by hand which is NOTE: equivalent to 25 pound-inches.

s 085-099

(2) Slowly disconnect the 0-150 psi pressure gage and permit the system to bleed down.

s 865-100

(3) Remove the cap from the outlet line on the pressure regulator, then connect the line to pressure regulator outlet.

s 865-101

ALL

OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. WARNING: THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(4) Open the shutoff valve to each crew oxygen cylinder as follows: (a) Slowly turn the shutoff valve until it is fully open.

> NOTE: But, do not torque the shutoff valve more than 25 pound-inches. This is equivalent to a torque which is tighten by your fingers.

EFFECTIVITY-

35-11-00



- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 865-116

(5) Close the access door to the crew oxygen cylinders

s 795-103

(6) Do a check of the connections on the pressure regulator outlet for leaks with a leak detection compound.

s 035-201

(7) Rub the leak detection compound off with a clean cotton cloth immediately after the check is done.

s 415-104

(8) Install the closure assembly in the right coat closet.

s 865-105

(9) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

35-11-00

ALL



#### CREW OXYGEN SYSTEM - INSPECTION/CHECK

#### General

- A. These tasks are included in this procedure:
  - (1) The Pressure and Leak Check for the crew oxygen cylinder
  - (2) The Correct Installation and Condition Check for the crew oxygen cylinder.
- B. The crew oxygen cylinder is installed in the forward cargo compartment aft of the cargo door (Fig. 601). Access to the crew oxygen cylinder is through the access door.

NOTE: Some airplanes have an optional second oxygen cylinder.

TASK 35-11-00-206-012

- 2. Crew Oxygen Cylinder Pressure and Leak Check (Fig. 601)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-free, White, Cotton
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-00
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 916-015

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 016-008

(2) Open the access door to the crew oxygen cylinder.

s 786-001

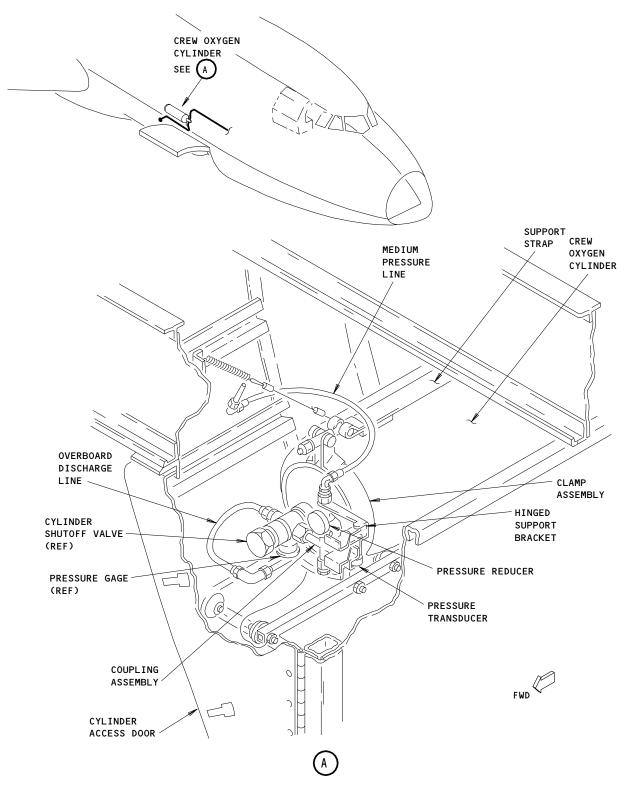
(3) Do a check of the pressure gage on the crew oxygen cylinder.

NOTE: Make sure the pressure is above the minimum necessary for the dispatch.

EFFECTIVITY-

35-11-00





Crew Oxygen Cylinder Inspection Figure 601

661552

35-11-00

02

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s 796-018

- (4) Do a check for crew oxygen cylinder leakage:
  - (a) Apply the leak detection compound to all fittings and connections.
  - (b) Look for bubbles to find leaks.
  - (c) Rub the leak detection compound off with a clean cloth immediately after you have checked to make sure the fittings and connections are dry.

CAUTION: DO NOT TIGHTEN THE FITTINGS AND CONNECTIONS MORE THAN THE TORQUE WHICH IS PERMITTED. THIS CAN CAUSE DAMAGE TO THESE PARTS

- 1) If you find leaks, tighten the fittings and connections.
- 2) If you cannot stop the leaks, send the crew oxygen cylinder to an approved facility for an overhaul. Do not permit the leaks to continue.

s 216-021

(5) Make sure it is not more than three years since the oxygen cylinder had its last hydrostatic test.

NOTE: The last hydrostatic test data will be on a label near the top of the oxygen cylinder.

s 416-009

(6) Close the access door to the crew oxygen cylinder.

TASK 35-11-00-206-003

- 3. Crew Oxygen Cylinder Correct Installation and Condition Check (Fig. 601)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-00
  - B. Access
    - (1) Location Zone

ALL

124 Forward Cargo Container Compartment, Aft Half Right

EFFECTIVITY-

35-11-00

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#### C. Procedure

s 916-016

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 016-010

(2) Open the access door to the crew oxygen cylinder.

s 216-013

- (3) Do a check each of these components to make sure they are installed correctly:
  - (a) The pressure transducer is installed correctly to the support bracket and the coupling assembly.
  - (b) The pressure reducer is installed correctly to the support bracket and the coupling assembly.
  - (c) The coupling assembly is installed correctly to the crew oxygen cylinder.
  - (d) The medium-pressure and overboard-discharge oxygen lines are installed correctly.
  - (e) The external-fill oxygen lines are installed correctly.

s 216-007

- (4) Do a check of the crew oxygen cylinder to make sure it is installed correctly:
  - (a) Make sure the crew oxygen cylinder is correctly installed on the support rollers.
  - (b) Make sure the crew oxygen cylinder is correctly installed to the support clamps and straps.

s 216-005

ALL

- (5) Do a check of the crew oxygen cylinder to make sure its in the satisfactory condition:
  - (a) Do this task: "Crew Oxygen Cylinder Pressure and Leak Check" to check the crew oxygen cylinder for leaks.
  - (b) Make sure itihas not more than three years since the oxygen cylinder had its last hydrostatic test.

NOTE: The last hydrostatic test data will be on a label near the top of the oxygen cylinder.

- (c) Do a check of the crew oxygen cylinder for these conditions:
  - 1) Make sure the pressure is above the minimum necessary for dispatch.

EFFECTIVITY-

35-11-00



- 2) Make sure the crew oxygen cylinder is clean.
- 3) Make sure the crew oxygen cylinder does not have nicks, cracks, dents, cuts, or any other damage.

s 416-011

(6) Close the access door to the crew oxygen cylinder.

 35-11-00

01

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# PRESSURE TRANSDUCER - REMOVAL/INSTALLATION

# 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the pressure transducer.
  - (2) Installation of the pressure transducer.
- B. The pressure transducer is installed on the coupling assembly which is connected to the outlet port of the cylinder in the forward cargo compartment (Fig. 401). Access is through the cylinder access door.

TASK 35-11-03-004-001

- 2. Pressure Transducer Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-03
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 914-025

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 864-002

- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 014-003

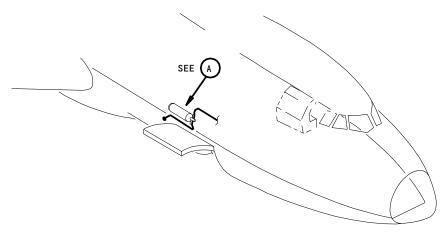
ALL

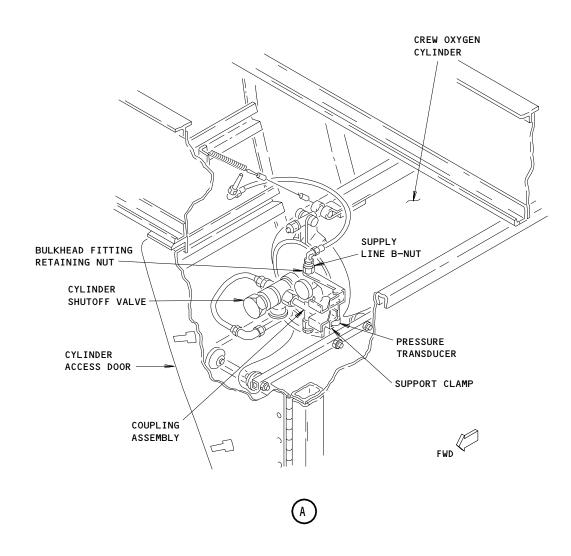
(3) Open the cylinder access door.

EFFECTIVITY-

35-11-03







Pressure Transducer Installation Figure 401

35-11-03

02

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s 864-004

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on the crew oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 034-006

(5) Disconnect the electrical connector.

s 024-007

(6) Remove the pressure transducer:

WARNING: LOOSEN THE FITTING CONNECTIONS CAREFULLY. IF NOT, THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly and continously loosen the B-nut from the pressure transducer to decrease pressure.
- (b) Disconnect the pressure reducer.
- (c) Loosen the two screws in the clamp which supports the transducer and remove the pressure transducer.

s 034-008

(7) Install the protective cap and the plug to the open oxygen line and the transducer inlet port.

NOTE: This will prevent contamination of the system.

TASK 35-11-03-404-009

- 3. Pressure Transducer Installatiion (Fig. 401)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - B. References
    - (1) AMM 24-22-00/201, Manual Control

EFFECTIVITY-

35-11-03



- (2) AMM 35-00-00/201, Oxygen
- (3) AMM 35-11-00/501, Crew Oxygen System
- (4) IPC 35-11-03
- (5) SSM 35-11-01
- (6) WDM 35-11-13
- C. Access
  - (1) Location Zone
    - Forward Cargo Container Compartment, Aft Half Right 124
- Procedure

s 914-026

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-010

(2) Remove the protective cap and plug from the oxygen line and transducer inlet port.

s 214-027

(3) Examine the threads on the fittings to make sure they are clean.

s 424-011

- (4) Install the pressure transducer:
  - Put the pressure transducer in the support clamp with the port aligned with the coupling assembly and install the B-nut loosely.
  - (b) Tighten the B-nut to 170 200 pound-inches.

NOTE: Use a torque wrench and a backup wrench to prevent damage to other components.

(c) Tighten the support clamp screws.

s 434-012

(5) Connect the electrical connector.

s 864-013

(6) Supply the electrical power (AMM 24-22-00/201).

s 864-014

ALL

- (7) Close this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

EFFECTIVITY-

35-11-03



S 864-015

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (8) Open the shutoff valve on the crew oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 784-017

(9) Do this task: "Operation Test - Crew Oxygen " (AMM 35-11-00/501).

NOTE: It is only neceasary to do up to the paragragh "Crew Oxygen Pressure Indication Test" on the task "Operation Test - Crew Oxygen".

s 794-018

(10) Do a check of the pressure transducer connection for leaks with the leak detection compound.

s 144-028

(11) Rub off the leak detection compound with a clean cotton cloth.

s 414-019

(12) Close the cylinder access door.

s 864-020

(13) Remove the electrical power if is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

35-11-03

ALL



## PRESSURE REDUCER - REMOVAL/INSTALLATION

### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the pressure reducer and the coupling assembly.
  - (2) Installation of the pressure reducer and the coupling assembly.
- B. The pressure reducer is installed on the coupling assembly which is connected to the outlet port of the crew oxygen cylinder in the forward cargo compartment (Fig. 401). The cylinder coupling assembly also includes the pressure transducer and a thermal compensator which are removed and installed with the coupling assembly. Access to the pressure reducer and cylinder coupling assembly is through the cylinder access door.

TASK 35-11-04-004-001

- 2. Pressure Reducer Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-04
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 914-029

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

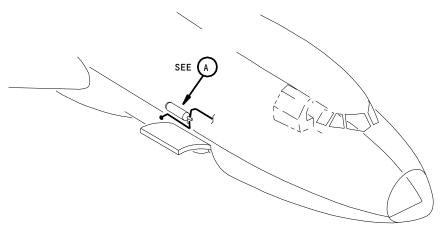
ALL

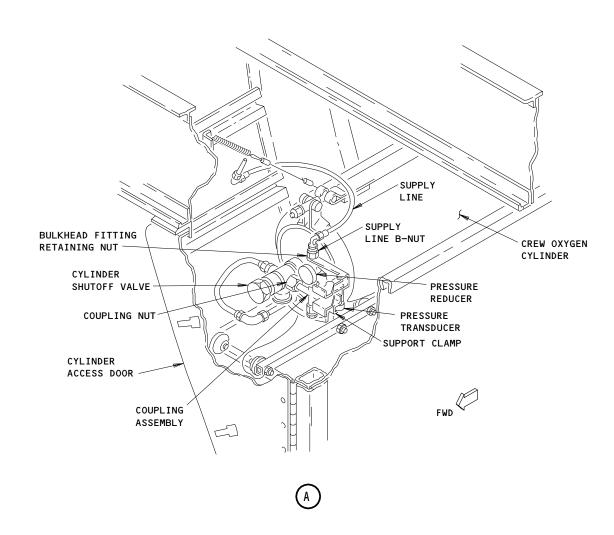
- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

EFFECTIVITY-

35-11-04







Pressure Reducer Installation Figure 401

EFFECTIVITY-ALL

35-11-04

02

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s 014-003

(3) Open the cylinder access door.

s 864-030

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE

SHUTOFF VALVE.

(4) Close the shutoff valve on each crew oxygen cylinder slowly.

NOTE: Some airplanes have an optional second oxygen cylinder.

NOTE: The shutoff valve can be closed by hand which is

equivalent to 25 pound-inches.

s 034-006

(5) Disconnect the electrical connector from the pressure transducer.

s 034-008

(6) Remove the coupling assembly:

WARNING: LOOSEN THE COUPLING NUT BETWEEN THE CREW OXYGEN CYLINDER AND THE COUPLING ASSEMBLY CAREFULLY. IF NOT, THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly and continously loosen the coupling nut between the oxygen cylinder and coupling assembly to decrease the pressure in the line.
- (b) Disconnect the coupling assembly from the crew oxygen cylinder.
- (c) Loosen the screws on the support clamp on the pressure transducer.
- (d) Disconnect the supply line from the bulkhead fitting at the supply line B-nut.
- (e) Hold the coupling assembly with the pressure transducer and the pressure reducer, then remove the retaining nut on the bulkhead fitting.
- (f) Remove the coupling assembly.

s 034-009

ALL

(7) Install the protective caps or the plugs to the open lines, fittings or ports to prevent contamination of the system.

EFFECTIVITY-

35-11-04



s 024-010

- (8) Remove the pressure reducer:
  - (a) Remove the bulkhead fitting from the upper end of the pressure reducer.
  - (b) Remove the metal seal between the bulkhead fitting and the pressure reducer.

<u>NOTE</u>: Keep the serviceable seal and fitting for the installation.

CAUTION: HOLD A WRENCH ON THE COUPLING ASSEMBLY WHEN YOU TURN THE PRESSURE REDUCER. IF NOT, DAMAGE TO THE COUPLING ASSEMBLY CAN OCCUR.

- (c) Remove the pressure reducer from the coupling assembly.
- (d) Remove the metal seal between the pressure reducer and the coupling assembly.

NOTE: Keep the serviceable seal for the installation.

TASK 35-11-04-404-011

- Pressure Reducer Installation (Fig. 401)
  - A. Consumable Material
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-11-00/501, Crew Oxygen System
    - (4) IPC 35-11-04
    - (5) SSM 35-11-01
    - (6) WDM 35-11-13
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 914-032

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-012

ALL

(2) Remove the protective caps or the plugs from the lines, fittings and the ports.

EFFECTIVITY-

35-11-04



s 214-036

(3) Examine the threads on the bulkhead fitting to make sure they are clean.

s 424-013

- (4) Install the pressure reducer:
  - (a) Put the metal seal with the flat face in the direction of the coupling hex nut.
  - (b) Make sure the ball face of the metal seal is in the direction of the pressure reducer.

CAUTION: MAKE SURE YOU TIGHTEN THE PRESSURE REDUCER WITH THE GIVEN INSTRUCTIONS OR THE OXYGEN CYLINDER COULD LEAK. HOLD A WRENCH ON THE COUPLING ASSEMBLY WHEN YOU TURN THE PRESSURE REDUCER. IF NOT, DAMAGE TO THE COUPLING ASSEMBLY CAN OCCUR.

- (c) Install the pressure reducer on the coupling assembly. Tighten to a torque of approximately 300 pound—inches.
- (d) Continue to tighten the pressure reducer until a sudden increase in torque occurs. This will make sure the parts are in full contact with the seal.

NOTE: The inlet ports on the pressure reducer are different in size. This makes sure the pressure reducer is installed with the oxygen flow in only the correct direction.

- (e) Put the metal seal with the flat face in the direction of the hex fitting.
- (f) Make sure the ball face of the metal seal is in the direction of the pressure reducer.
- (g) Install the hex head fitting in the outlet end of the pressure reducer.

CAUTION: HOLD A WRENCH ON THE HEX FITTING WHEN YOU TURN THE PRESSURE REDUCER. IF NOT, DAMAGE TO THE PRESSURE REDUCER CAN OCCUR.

(h) Tighten the hex fitting to a torque of approximately 300 pound-inches.

EFFECTIVITY-

35-11-04

ALL



(i) Continue to tighten the hex fitting until a sharp increase in torque occures.

NOTE: This will make sure the parts are in full contact with the seal.

S 434-014

- (5) Install the coupling assembly:
  - (a) Put the coupling assembly with the pressure transducer and pressure reducer through the hole in the support bracket.

<u>NOTE</u>: The pressure reducer here is attached in its position on the pressure transducer.

- (b) Make sure the pressure transducer is installed into the support clamp and the coupling assembly fitting is aligned with the cylinder port.
- (c) Install the retaining nut on the bulkhead fitting above the support bracket to connect the pressure reducer.
- (d) Connect the supply line to the bulkhead fitting.
- (e) Tighten the screws on the support clamps on the pressure transducer.
- (f) Tighten the coupling assembly on the cylinder nut to a torque of 650 to 700 pound-inches.
- (g) Tighten the connections downstream of the pressure reducer.

s 434-015

(6) Connect the electrical connector to the pressure transducer.

s 864-033

ALL

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(7) Open the shutoff valve on each crew oxygen cylinder:

NOTE: Some airplanes have an optional second oxygen cylinder.

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

(b) Close the shutoff valve one-fourth of a turn.

EFFECTIVITY-

35-11-04

•



(c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 794-019

(8) Do a check of all connections for leaks with the leak detection compound for the oxygen system.

s 144-035

(9) Rub off the leak detection compound with a clean cotton cloth.

s 864-020

(10) Supply the electrical power (AMM 24-22-00/201).

S 864-021

(11) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
(a) P7 Overhead Circuit Breaker Panel.

1) 7D4 OXYGEN VALVE & IND

s 714-037

(12) Do this Task: Operation Test - Crew Oxygen (AMM 35-11-00/501).

NOTE: It is only necessary to do up to the paragragh "Crew Oxygen Pressure Indication Test" on the task "Operation Test - Crew Oxygen".

s 414-023

(13) Close the cylinder access door.

s 864-024

ALL

(14) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

35-11-04



## PRESSURE REGULATOR - REMOVAL/INSTALLATION

### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the pressure regulator
  - (2) Installation of the pressure regulator
- B. The pressure regulator is installed on the dripshield of the aft right sidewall in the flight compartment (Fig. 401). Remove the closure assembly to get access the pressure regulator in the right coat closet.

TASK 35-11-05-004-001

- 2. <u>Pressure Regulator Removal</u> (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-05
  - C. Access
    - (1) Location Zone

222 Control Cabin Right

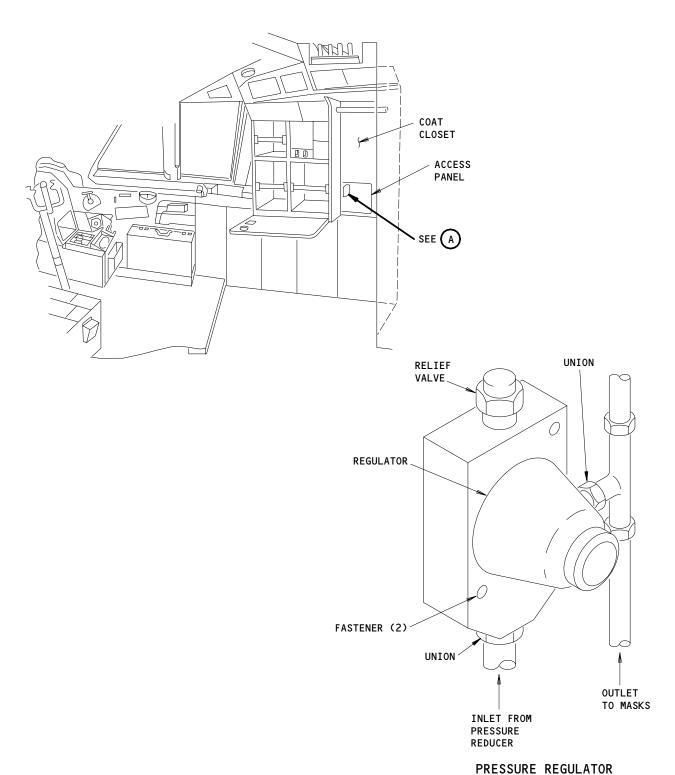
- D. Procedure
  - s 914-013
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).
    - S 864-016
  - CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.
  - (2) Close the shutoff valve on each crew oxygen cylinder slowly.
    - NOTE: Some airplanes have an optional second oxygen cylinder.
    - NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.
    - (a) Set the dilution control lever on the demand regulator to 100%.

EFFECTIVITY-

35-11-05

ALL





Pressure Regulator Installation Figure 401

ALL

35-11-05

01

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- (b) Set the PRESS TO TEST knob to EMERGENCY.
- (c) Move the RETEST lever (sliding control) on the mask stowage box to bleed the oxygen lines.

s 034-011

(3) Remove the closure assembly in the right coat closet to permit access to the pressure regulator (Fig. 401).

s 024-003

- (4) Remove the pressure regulator:
  - (a) Disconnect the inlet and the outlet lines from the pressure regulator.
  - (b) Remove the mounting fasteners.
  - (c) Remove the pressure regulator.

s 034-004

(5) Install the protective caps or the plugs to the open lines, fittings or ports to prevent contamination of the system.

TASK 35-11-05-404-005

- 3. Pressure Regulator Installation (Fig. 401)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-05
  - C. Access
    - (1) Location Zone

222 Control Cabin Right

D. Procedure

s 914-014

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-006

(2) Remove the protective caps or the plugs from the open lines, fittings, or ports.

s 424-007

- (3) Install the pressure regulator:
  - (a) Put the pressure regulator in the position on the dripshield on the aft right sidewall.
  - (b) Loosely connect the inlet and the outlet lines.
  - (c) Install the fasteners
  - (d) Tighten the inlet and outlet lines.

EFFECTIVITY-

35-11-05



s 434-010

(4) Install the closure assembly in the right coat closet (Fig. 401).(a) Move the RESET lever (sliding control) on the demand regulator to N (normal).

S 864-018

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(5) Open the shutoff valve on each crew oxygen cylinder:

NOTE: Some airplanes have an optional second oxygen cylinder.

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter coppper lockwire (AMM 20-11-28/401).

s 794-009

(6) Do a check of the inlet and outlet line connections for leaks with the leak detection compound for the oxygen system.

s 144-020

ALL

(7) Rub off the leak detection compound after you have done the check.

EFFECTIVITY-

35-11-05



S 414-023
(8) Close the cylinder access door.

EFFECTIVITY-

ALL

35-11-05

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## OVERBOARD DISCHARGE INDICATOR - REMOVAL/INSTALLATION

# 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the overboard discharge indicator.
  - (2) Installation of the overboard discharge indicator.
- B. The overboard discharge indicator is a plastic disc. Dirt, grease, and most other contaminants will not nornally enter the overboard discharge line with the overboard discharge indicator installed. The overboard discharge indicator will blow out if the safety valve on the cylinder opens. This permits pressure in the overboard discharge line to increase to 500 psi.
- C. The overboard discharge indicator is installed aft of the forward cargo door in the airplane skin (Fig. 401). Access is from outside of the airplane.

TASK 35-11-10-004-001

- 2. Overboard Discharge Indicator Removal (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-10
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

C. Procedure

s 914-007

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 034-002

(2) Remove the snap ring from the overbaord discharge indicator.

s 024-003

(3) Remove the damaged plastic disc or particles.

TASK 35-11-10-404-004

- 3. Overboard Discharge Indicator Installation (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-10
  - B. Access
    - (1) Location Zone

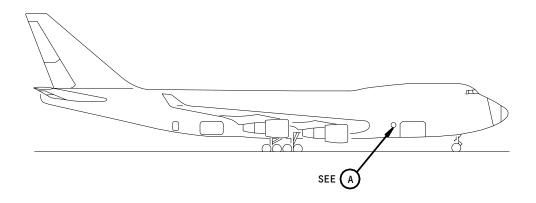
124 Forward Cargo Container Compartment, Aft Half Right

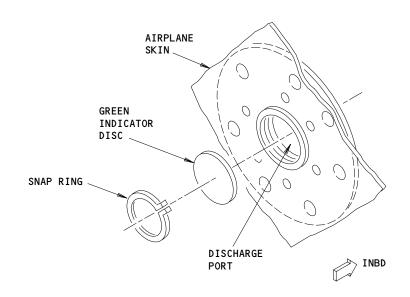
EFFECTIVITY-

35-11-10

ALL







OVERBOARD DISCHARGE INDICATOR

Overboard Discharge Indicator Installation Figure 401

EFFECTIVITY-ALL

35-11-10

01

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#### C. Procedure

s 914-008

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 424-005

(2) Insert the plastic disc in the port.

s 434-006

(3) Install the snap ring to the overboard discharge indicator.

EFFECTIVITY-

35-11-10

ALL

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# MASK/REGULATOR AND STOWAGE BOX - MAINTENANCE PRACTICES

#### 1. General

- A. This task is included in this procedure:
  - (1) Crew Oxygen Mask/Regulator Stowage.
- B. The mask must be properly stowed for fast and efficient mask donning.
- C. The stowage procedure is for a single mask/regulator and stowage box. To do the procedure on all other masks/regulators and stowage boxes, do the same steps again.
- D. A mask stowage box is installed at each crew station (Fig. 201). Access to each mask stowage box is through the flight compartment.

TASK 35-11-18-212-008

- 2. <u>Crew Oxygen Mask/Regulator Stowage</u> (Fig. 201)
  - A. References
    - (1) AMM 23-51-00/501 , Flight Interphone System
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-11-00/501, Crew Oxygen System
    - (4) IPC 35-11-18
  - B. Access
    - (1) Location Zone

221 Control Cabin Left222 Control Cabin Left

C. Procedure

s 912-006

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 542-025

(2) Peel off the protective cover from the face mask goggle, if it is on the mask.

NOTE: A protective cover may be installed on the mask goggle by the manufacturer, which may obstruct vision when you use the mask. Make sure you peel off the protective cover before you stow the mask, if it is on the mask.

s 862-002

(3) Make sure the harness and oxygen supply hose are not twisted.

s 862-003

WARNING: DO NOT PRESS THE INFLATION EARS ON THE RED HARNESS. THIS WILL INFLATE THE HARNESS, AND PREVENT THE CORRECT STOWAGE OF THE MASK/REGULATOR.

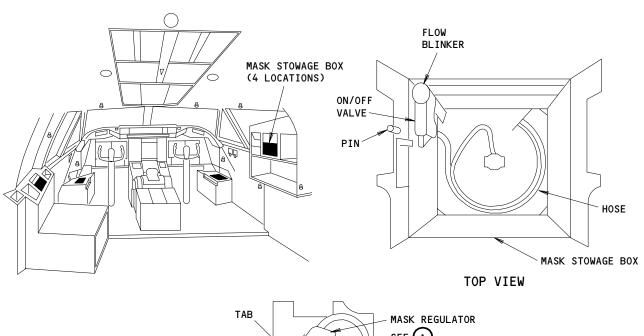
- (4) Stow the crew oxygen mask/regulator:
  - (a) Hold the mask and wind the hose into a coil in the stowage box.

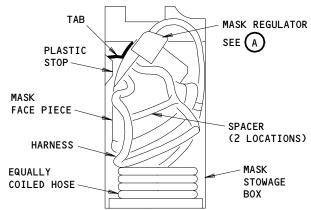
EFFECTIVITY-

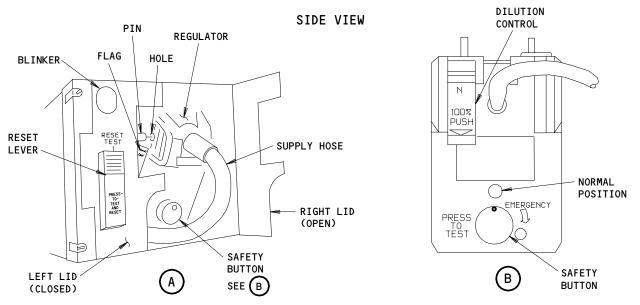
35-11-18

ALL









Crew Oxygen Mask Packing Procedure Figure 201

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- Carefully push the hose down to make the coils equal.
- (c) When most of the hose is in a coil, hold the two large spacers at the back of the harness and carefully pack them down onto the hose.
- (d) Put the harness carefully into the stowage box, while you push the mask/regulator forward.

Harness must be on top of the hose.

- Make sure the mask/regulator and supply hose are correctly positioned in the stowage box.
  - 1) Make sure the tab on the front of mask/regulator is on top of the plastic stop inside the stowage box.
  - Make sure the first two spacers of the harness are on top of the mask face piece.
  - Make sure the harness will not touch the ON-OFF valve or the flow blinker when you close the stowage box lids.
- (f) Put the supply hose at the center of the bottom of the mask stowage box.
- (g) Push the hose in sufficiently to provide clearance between the hose attachments and the mask face seal.
- Make sure the dilution control is on 100 percent and the safety button is on normal.
- (i) Close the left lid of the stowage box.
- Slide the RESET lever on the left lid and make sure the flag can not be seen.
- (k) Put the pin on the left lid in the hole on the left side of the mask regulator.
- Close the right lid of the stowage box.

s 712-005

Do the task: "Operational Test - Crew Oxygen" (AMM 35-11-00/501).

s 712-009

ALL

(6) Do this task to make sure the captain's boom mic operates correctly: " Flight Interphone System Test " (AMM 23-51-00/501).

EFFECTIVITY-

35-11-18



# MASK/REGULATOR AND STOWAGE BOX - REMOVAL/INSTALLATION

#### 1. General

- A. This procedure includes these tasks:
  - (1) Stowage Box Removal
  - (2) Stowage Box Installation
  - (3) Mask/Regulator Removal
  - (4) Mask/Regulator Installation
- B. The removal and installation procedure is for one mask/regulator and one stowage box. Do the steps in this procedure again for the other masks/regulators and stowage boxes.
- C. A stowage box is installed at each crew station. Access to each stowage box is through the flight compartment.

TASK 35-11-18-004-001

- 2. Stowage Box Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps or Plugs Package of Clean Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-18
    - (3) WDM 35-11-01
  - C. Access
    - (1) Location Zone

221 Control Cabin Left222 Control Cabin Right

D. Procedure

s 914-069

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

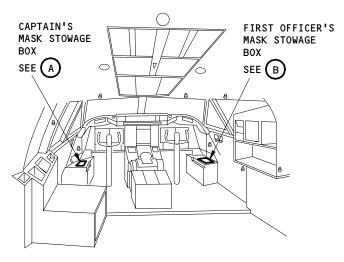
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- (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7A20 CAPT INTERPHONE

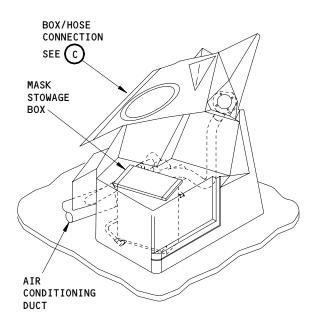
EFFECTIVITY-

35-11-18

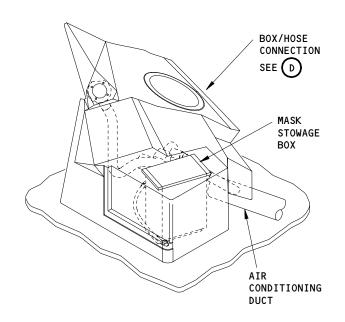




FLIGHT COMPARTMENT







FIRST OFFICER'S MASK STOWAGE BOX

Crew Oxygen Box Installation Figure 401 (Sheet 1)

EFFECTIVITY-ALL

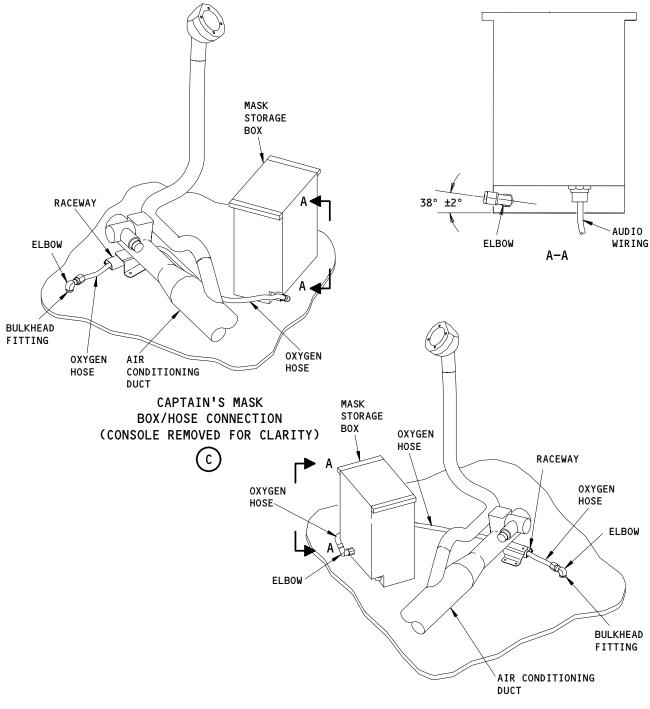
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FIRST OFFICER'S MASK
BOX/HOSE CONNECTION
(CONSOLE REMOVED FOR CLARITY)

(D)

Crew Oxygen Box Installation Figure 401 (Sheet 2)

EFFECTIVITY ALL

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- 2) 7A21 OBS INTERPHONE
- 3) 7A22 F/O INTERPHONE

S 864-061

DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER CAUTION: MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each crew oxygen cylinder slowly.

NOTE: Some airplanes have an optional second oxygen cylinder.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

S 864-068

(4) Set the dilution control lever on the regulator to 100%.

S 034-064

(5) Set the PRESS TO TEST knob on the regulator to EMERGENCY.

s 714-075

(6) Move the PRESS TO TEST AND RESET lever on the mask stowage box to bleed the oxygen lines.

s 024-004

ALL

- (7) Remove the stowage box.
  - (a) Loosen the four fasteners which hold the stowage box to the structure and lift the stowage box.

WARNING: LOOSEN THE FITTING CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- Disconnect the oxygen supply line from the stowage box.
  - Slowly loosen the fitting connections with two wrenches: one to hold the fitting and one to tighten the other fitting.

EFFECTIVITY-

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s 034-005

- (8) Disconnect these microphone connectors from the stowage box:
  - (a) Electrical connector (DB637) on the stowage box (B637) for the captain
  - (b) Electrical connector (DB641) on the stowage box (B641) for the first officer.
  - (c) Electrical connector (DB643) on the stowage box (B643) for the first observer.
  - (d) Electrical connector (DB815) on the stowage box (B815) for the second observer.

s 034-006

(9) Install clean caps or plugs to the open fittings and ports.

NOTE: Clean metal caps must be used where the cap engages the connector threads. New plastic caps must be used if the cap does not engage the connector threads.

TASK 35-11-18-404-007

- 3. Stowage Box Installation (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-11-00/501, Crew Oxygen System
    - (3) IPC 35-11-18
    - (4) WDM 35-11-01
  - B. Access
    - (1) Location Zone

221 Control Cabin Left

222 Control Cabin Right

C. Procedure

s 914-070

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-008

(2) Remove all caps or plugs from the fittings and ports.

s 434-009

- (3) Connect these microphone connectors to the stowage box:
  - (a) Electrical connector (DB637) on the stowage box (B637) for the captain
  - (b) Electrical connector (DB641) on the stowage box (B641) for the first officer.
  - (c) Electrical connector (DB643) on the stowage box (B643) for the first observer.
  - (d) Electrical connector (DB815) on the stowage box (B815) for the second observer.

EFFECTIVITY-

35-11-18

ALL

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s 424-010

- (4) Install the stowage box.
  - (a) Connect the oxygen supply line to the stowage box as follows:

WARNING: IN ORDER TO PREVENT POSSIBLE CHAFING CONDITION TO THE OXYGEN HOSE, DO NOT ROUTE THE OXYGEN HOSE OVER THE AIR CONDITIONING DUCT. A CHAFED HOSE CAN CAUSE THE OXYGEN TO LEAK AND POSSIBLY BLEED DOWN THE FLIGHT CREW OXYGEN SYSTEM AND AFFECT FLIGHT SAFETY.

- 1) Route the oxygen hose under the air conditioning duct through the raceway bonded to the flight deck floor (Fig. 401).
- 2) Loosely tighten the fitting connection with your hand. Use two wrenches to tighten the fitting fully; one to hold the fitting and one to tighten the fitting.
- 3) Do the tasks: "Crew Oxygen Leak Test" (AMM 35-11-00/501) to test the connections for leaks.
- (b) Put the stowage box in the structure.
- (c) Install the stowage box to the structure with the four fasteners.

s 414-011

(5) If not installed before, install the mask/regulator in the stowage box, do this task, "Mask/Regulator Installation".

s 714-076

(6) Move the dilution control on the regulator to N (normal).

s 864-065

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(7) Open the shutoff valve on each crew oxygen cylinder as follows:

NOTE: Some airplanes have an optional second oxygen cylinder.

(a) Slowly turn the shutoff valve until it is fully open.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

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- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 864-015

- (8) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7A20 CAPT INTERPHONE
    - 2) 7A21 OBS INTERPHONE
    - 3) 7A22 F/O INTERPHONE

s 714-016

(9) Do the tasks: "Crew Oxygen Operational Test" (AMM 35-11-00/501).

TASK 35-11-18-004-017

- Mask/Regulator Removal
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-18
    - (3) WDM 23-51-11, 23-51-12, 23-51-13, 23-51-14
  - B. Access
    - (1) Location Zone

221 Control Cabin Left

222 Control Cabin Right

- C. Procedure
  - s 914-073
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-018

- (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7A20 CAPT INTERPHONE
    - 2) 7A21 OBS INTERPHONE
    - 3) 7A22 F/O INTERPHONE

EFFECTIVITY-

35-11-18



S 864-045

CAUTION: DO NOT TORQUE THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each crew oxygen cylinder slowly.

NOTE: Some airplanes have an optional second oxygen cylinder.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 714-078

(4) Set the dilution control lever on the regulator to 100 %.

s 034-057

(5) Set the PRESS TO TEST knob to EMERGENCY.

s 034-059

(6) Move the PRESS TO TEST AND RETEST lever on the mask stowage box to bleed the oxygen lines.

s 034-021

(7) Disconnect the microphone connector from the stowage box.

s 024-022

(8) Remove the mask/regulator from the stowage box.

s 034-023

(9) Install clean caps or plugs to the open fittings and ports.

NOTE: Clean metal caps must be used where the cap engages the connector threads. New plastic caps must be used if the cap does not engage the connector threads.

TASK 35-11-18-404-024

# Mask/Regulator Installation

- A. References
  - (1) AMM 35-00-00/201, Oxygen
  - (2) 35-11-00/501, Crew Oxygen System
  - (3) 35-11-18/201, Mask, Demand Regulator and Stowage Box
  - (4) IPC 35-11-18
  - (5) WDM 23-51-11, 23-51-12, 23-51-13, 23-51-14

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- B. Access
  - (1) Location Zone

221 Control Cabin Left

222 Control Cabin Right

C. Procedure

s 914-074

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-025

(2) Remove all caps or plugs from the fittings and ports.

S 434-026

(3) Connect the microphone connector to the stowage box.

s 424-027

(4) Install the mask/regulator.

s 714-085

(5) Move the lever on the regulator to N (normal).

S 864-048

WARNING: OPEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER SLOWLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE CREW OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(6) Open the shutoff valve on each crew oxygen cylinder as follows:

NOTE: Some airplanes have an optional second oxygen cylinder.

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be turned by hand which is equivalent to 25 pound-inches.

(b) Close the shutoff valve one-fourth of a turn.

s 864-029

- (7) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7A20 CAPT INTERPHONE
    - 2) 7A21 OBS INTERPHONE
    - 3) 7A22 F/O INTERPHONE

EFFECTIVITY-

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s 414-030

(8) Put the mask/regulator in the stowage box (AMM 35-11-18/201).

s 714-031

(9) Do the operational test of the crew oxygen system (AMM 35-11-00/501).

EFFECTIVITY-

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#### MASK/REGULATOR AND STOWAGE BOX - INSPECTION/CHECK

## 1. General

- A. This procedure includes these tasks:
  - (1) Mask/Regulator Inspection
  - (2) Smoke Goggles Inspection.
- B. A stowage box and smoke goggles are installed at each crew station. Access is through the flight compartment.

TASK 35-11-18-206-001

# 2. Mask/Regulator Inspection

- A. References
  - (1) AMM 35-00-00/201, Oxygen
  - (2) AMM 35-11-18/201, Mask/Regulator and Stowage Box
  - (3) AMM 35-11-18/401, Mask/Regulator and Stowage Box
  - (4) IPC 35-11-18
- B. Access
  - (1) Location Zone

221 Control Cabin, Left

222 Control Cabin, Right

# C. Procedure

s 916-009

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 866-002

(2) Remove the mask/regulator from the stowage box.

s 216-003

ALL

- (3) Do a visual check of the mask, hoses, harness, regulator, cord, and microphone assembly:
  - (a) Make sure the parts are clean:
    - 1) Examine the parts for deterioration
    - 2) Make sure there is no discoloration
    - 3) Make sure the parts do not have cracks
    - 4) Make sure the parts do not have more damage.
  - (b) Make sure the fittings and connections are attached correctly.
  - (c) Replace the mask, hose, regulator, or all parts that are not in satisfactory condition (AMM 35-11-18/401).

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s 866-005

(4) Put the mask/regulator back in the stowage box (AMM 35-11-18/201).

TASK 35-11-18-206-006

- 3. <u>Smoke Goggles Inspection</u>
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-11-18
  - B. Access
    - (1) Location Zone

221 Control Cabin, Left221 Control Cabin, Right

- C. Procedure
  - s 916-010
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 216-007

- (2) Do a visual check of the smoke goggles:
  - (a) Examine the foam face seal:
    - 1) Make sure it is clean
    - 2) Examine it for deterioration
    - 3) Make sure it does not have cracks or tears
    - 4) Make sure there is no discoloration
    - 5) Make sure it does not have some other damage.
  - (b) Examine the lens:
    - 1) Make sure it is clean
    - 2) Make sure it does not have cracks or scratches
    - 3) Make sure there is no discoloration
    - 4) Make sure it does not have more damage.
  - (c) Examine the elastic strap:
    - 1) Make sure it is clean

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- 2) Make sure it does not have cracks.
- 3) Make sure it extends and retracts satisfactorily
- 4) Make sure it is correctly installed to the facepiece.
- 5) Make sure it does not have some other damage.
- (d) Replace smoke goggles if it is not in satisfactory condition.

 35-11-18

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### PASSENGER OXYGEN SYSTEM - DESCRIPTION AND OPERATION

#### 1. General (Fig. 1)

- A. The passenger oxygen system delivers supplemental and protective breathing oxygen to the passenger cabin and crew rest areas. System operation is initiated either automatically by an aneroid device when cabin pressure decreases to an equivalent of 13,250 to 14,500 feet altitude, or electrically by a switch on the P5 Pilot's Overhead Panel. Oxygen is supplied by oxygen storage cylinders, each close-coupled to a pressure reducer and a pressure transducer. The pressure reducers feed into a medium pressure line supplying three flow control units. Each oxygen cylinder has a safety relief device to provide protection against excessive pressure. Flow and pressure is controlled by the flow control units.
- B. Low pressure oxygen from the flow control units is supplied to distribution manifolds. The distribution manifolds have connections to which flexible hoses may be attached to deliver oxygen to the oxygen boxes. Each oxygen box contains a unitized valve assembly and oxygen masks with tubing to provide oxygen to the passengers and attendants. # Oxygen boxes are installed above each passenger seat (PSUs), attendant's seat and purser's seat, in each lavatory, crew rest, galley, and in the forward end of zone A.
- C. The pressure transducer voltage outputs feed into a voltage averaging unit. The output of the voltage averaging unit is then fed to the EICAS.
- D. The tubing between the oxygen cylinders and the flow control units in the high pressure side of the system is made of corrosion-resistant steel with flareless-type steel fittings. The overboard discharge relief line is also constructed for high pressure. The low pressure tubing downstream of the flow control units is made of aluminum with flareless-type aluminum fittings having stainless steel sleeves, or quick-disconnect coupling assemblies with O-ring seals.
- E. The quick-disconnect coupling assemblies are used on the main deck low pressure tubing. The coupling assemblies are installed at 70 percent of the distribution break points to allow for interior flexibility.
- F. KLM COMBIS;
  - an emergency annunciation system is installed on the P237 panel in the main deck cargo area. The annunciation system provides aural (horn) and visual (lights) warning when the passenger oxygen system is actuated. A switch (S2094), located at the loadmasters station, can be used to cancel the aural warning. The aural warning, if not cancelled by the switch, will self-cancel in 1 minute. Both warnings will self-cancel when the passenger oxygen system is reset.
- G. Oxygen servicing is accomplished by cylinder replacement with fully charged cylinders (Ref 12-15-08/301).

#### 2. Oxygen Cylinders (Fig. 2)

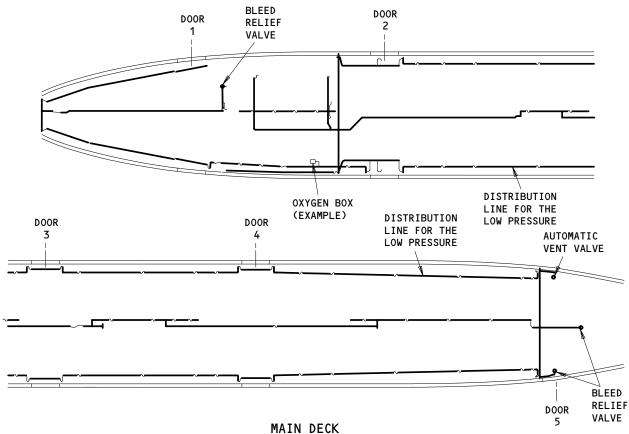
A. Oxygen storage cylinders supply oxygen to the passenger oxygen system. The cylinders are mounted in the sidewall of the forward cargo compartment. Each cylinder has a quantity of oxygen equivalent to 114 cubic feet at 760 mm Hg absolute and 70°F when filled to 1850 psi. Space is available for additional cylinders.

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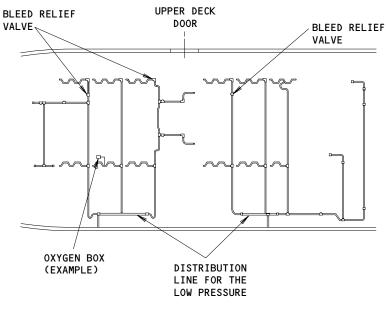
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UPPER DECK

Passenger Oxygen Component Location Figure 1 (Sheet 1)

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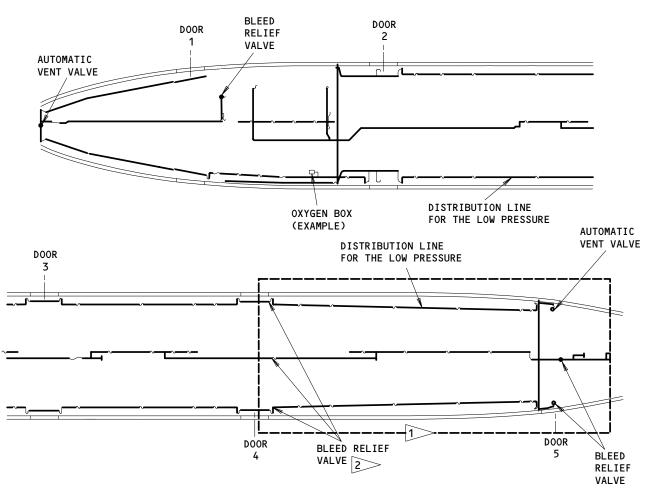
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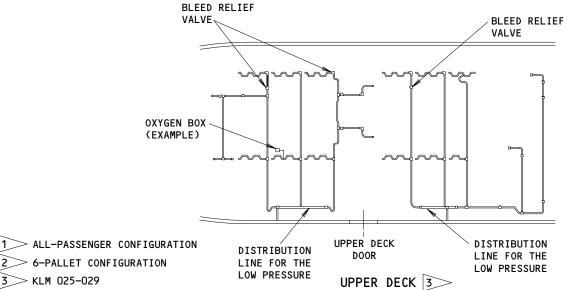
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Passenger Oxygen Component Location Figure 1 (Sheet 2)

EFFECTIVITY KLM COMBIS

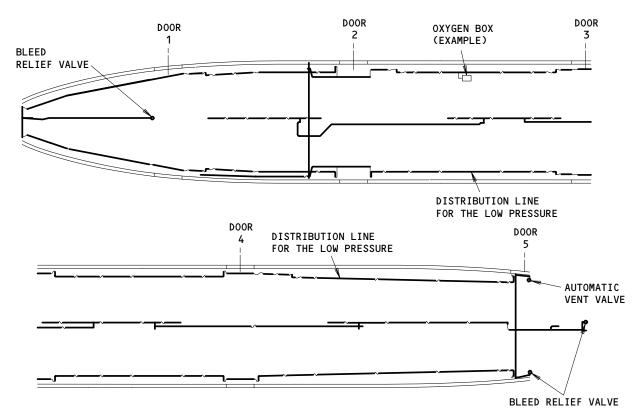
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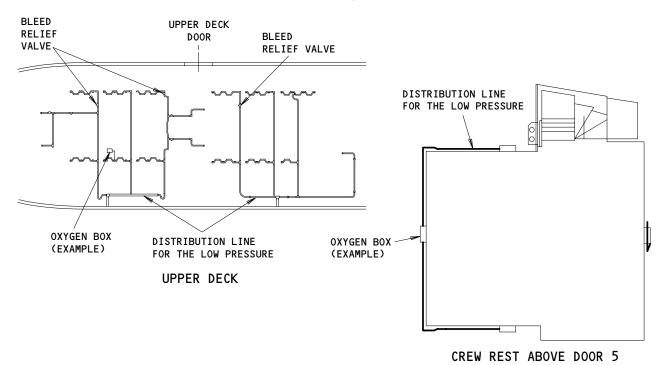
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## MAIN DECK



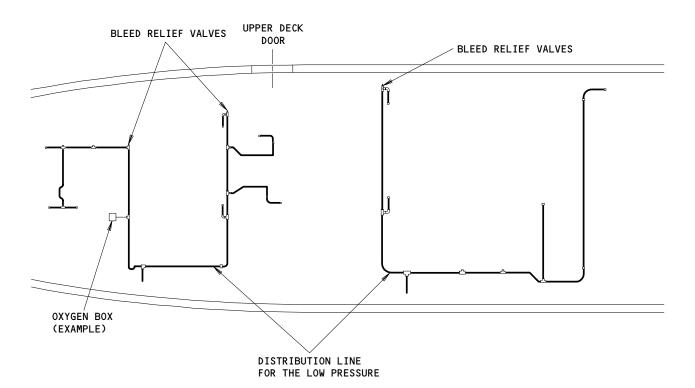
Passenger Oxygen Component Location Figure 1 (Sheet 3)

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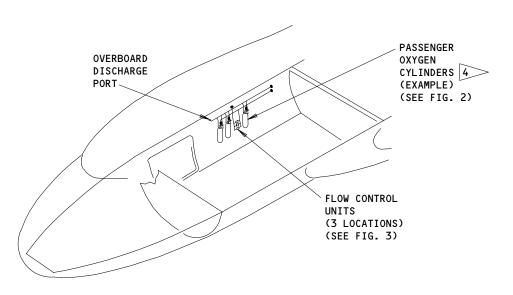
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# UPPER DECK 5



NUMBER OF OXYGEN CYLINDERS CAN CHANGE

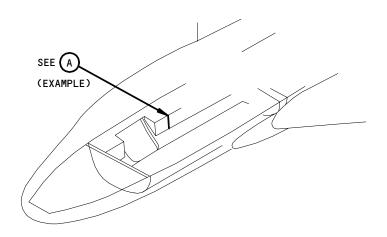
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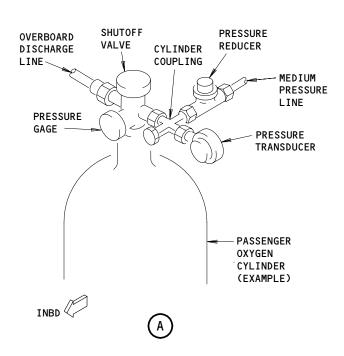
Passenger Oxygen Component Location Figure 1 (Sheet 4)

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Passenger Oxygen Cylinder Figure 2

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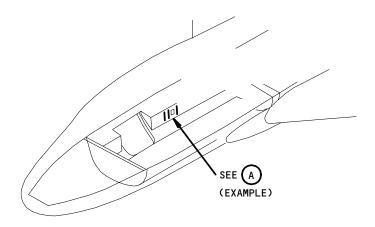
- B. The cylinder assemblies each include a slow opening shutoff valve, a pressure gage, and a safety outlet device which bursts before pressure reaches a value that could damage the cylinder, tubing, or components. The safety outlet devices are manifolded to a line which runs to an overboard discharge port in the airplane skin. The overboard discharge port incorporates an indicator (a plastic disc) which normally prevents dirt, grease, etc., from entering the discharge line, but which ruptures at a pressure of 500 psig to allow oxygen to discharge overboard. The overboard discharge line serves both the passenger and crew systems.
- 3. Flow Control Units (Fig. 3)
  - A. Three flow control units are installed in the passenger oxygen system to supply a continuous low pressure flow of oxygen to each passenger and attendant. The units are found in the sidewall of the forward cargo compartment and connected in parallel in the oxygen distribution line.
  - B. There is one electropneumatic surge unit (M101), one electropneumatic non-surge unit (M123) and a pneumatic unit. Each unit is controlled by an aneroid that automatically initiates oxygen flow when cabin pressure decreases to an equivalent of 13,250 to 14,500 feet altitude. The electropneumatic units can also be controlled electrically by the PASS OXYGEN (M7315) switch on the P5 Pilot's Overhead Panel. Actuating the flow control units will send a pressure surge through the low pressure distribution lines and unlatch the oxygen box doors to release the oxygen mask to the user.
  - C. Electropneumatic Flow Control Units
    - (1) The M101 electropneumatic flow control unit consists of a pressure reducer, pressure switch, surge chamber, and an actuation valve. The actuation valve may be operated by an automatic aneroid mechanism or by a solenoid-controlled actuator which is activated by a switch on the P5 Pilot's Overhead Panel. If it is desired to return the system to normal after the control unit has been actuated either automatically or electrically, the actuation valve must be reset (Fig. 3). The units cannot be reset when cabin pressure is equivalent to a 12,000-foot altitude or higher.
      - (a) A pressure switch, in the low pressure side of the unit, provides a ground for the R36 decompression relay and signals the EICAS to display the advisory message " PASS OXYGEN ON " indicating that the passenger low pressure oxygen distribution system is pressurized and the passenger oxygen system actuated.

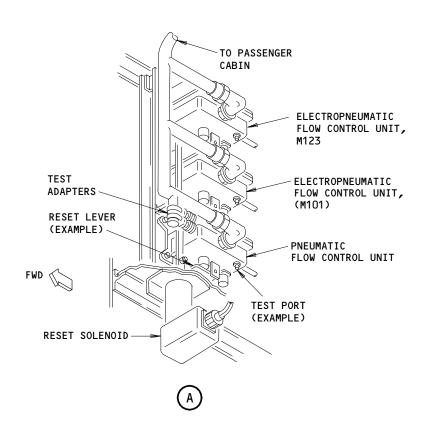
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Flow Control Unit Figure 3

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# (b) KLM COMBIS;

the pressure switch provides a ground for the R36 decompression relay and signals the emergency annunciation system aural and visual warnings. These warnings indicate that the passenger oxygen system has actuated.

- (2) The M123 electropneumatic flow control unit is identical to the M101 unit except that this unit does not contain a pressure switch or surge chamber.
- D. Pneumatic Flow Control Unit
  - (1) The pneumatic flow control unit includes most of the features of the electropneumatic unit, but does not contain a pressure switch and cannot be actuated electrically. The unit is installed in parallel with the other two units.
  - (2) The pneumatic flow control unit can be actuated manually by depressing the manual actuation plunger, adjacent to the reset plunger. Provisions have not been made to accomplish this during flight.
- E. Flow Control Unit Resetting
  - (1) The flow control unit is turned "OFF" when you move the M7315 PASS OXYGEN switch on the P5 Pilot's overhead panel to the RESET position. This reset is accomplished by a solenoid/reset lever mechanism which turns the flow conrol unit off. This simultaneously moves the flow control unit indicators to the "OFF" position. The flow control units must be reset following actuation to prepare the system for future use.

# 4. Low Pressure Distribution System

- A. Low pressure oxygen from the flow control units is supplied to the main feeder manifolds. One is installed on each side of the fuselage, one down the center of the fuselage, and two to the upper deck passenger compartment. Short distribution lines off the main feeder manifolds supply oxygen to the aft lavatories on the upper deck, and crew rest areas. Flexible tubing attached to connections along each manifold delivers oxygen to the oxygen boxes. The distribution system is vented to the cabin ambient pressure through an automatic vent valve which closes when the oxygen system is actuated.
- B. Bleed relief valves are installed at various locations along the low pressure distribution lines to relieve pressure exceeding 27 ±1.5 psig.

#### Automatic Vent Valve (Fig. 1)

A. The automatic vent valve is used in the normally unpressurized low pressure distribution system to vent oxygen from the flow control units in event of possible leakage. This leakage must be bled from the system to prevent system pressure buildup and subsequent actuation of the service unit latches and dropping of the masks. When the oxygen system is actuated, the vent valve automatically closes when manifold pressure exceeds 1 psig to prevent loss of oxygen.

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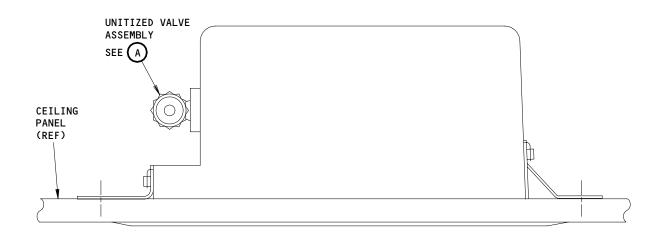


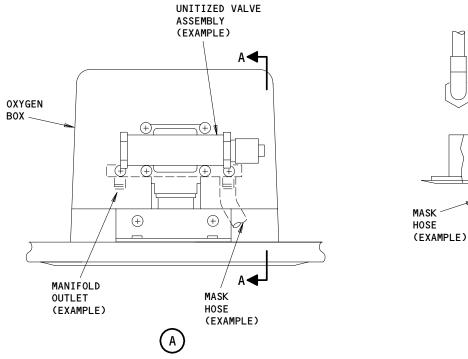
# 6. Bleed Relief Valve (Fig. 1)

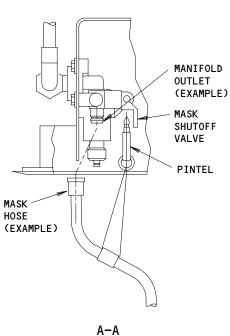
- A. The bleed relief valves are located at various locations in the low pressure distribution system. The purpose of the bleed relief valve is to vent any trapped air from the low pressure system during the initial surge pressurization of the system. The valve will relieve pressure that exceeds 27 (± 1.5) psig. The pressure will exceed 27 (± 1.5) psig during the surge period when the system is actuated. When the manifold pressure drops to 24 psig, the valve will close.
- 7. Unitized Valve Assembly (Fig. 4)
  - A. The unitized valve assembly consists of an inlet port assembly, a manifold, mask shutoff valves, mask outlets, and a door latch mechanism.
  - B. The unitized valve assembly is connected to the low pressure distribution line by a flexible hose at the inlet port. When pressure in the low pressure distribution line rises between 16 and 29 psig, the door latch actuates and opens the oxygen box door. The door latch mechanism can be operated manually for maintenance access.
  - C. The mask shutoff valves controls the flow of oxygen to the mask outlets after pintel is removed. The mask shutoff valve is closed when the flap-type lever is in the up position and opened when the flap-type lever is in the down (normal) position.
  - D. A pintel assembly is inserted into the mask shutoff valve and is connected to the mask hose by a short chord. The pintel assembly (when inserted) is used to hold the mask shutoff valve closed when the valve is in the down (normal) position. Pulling the mask to the face withdraws the pintel, opening the mask shutoff valve and allowing oxygen to flow to the mask outlets.
  - E. During normal flight conditions, the mask shutoff valves are in the down position with the pintel assembly inserted and the oxygen box door is held closed by the door latch mechanism.
- 8. Passenger Oxygen Mask (Fig. 5)
  - A. The passenger oxygen mask assembly is an oronasal cup-shaped continuous flow type unit and is connected to the outlet valve nozzle with flexible plastic tubing. A 1 liter reservoir bag is attached to the facepiece with a check valve incorporated at the mask. The mask is designed to conform with facial contours and may be held in position with an elastic head strap.
- 9. <u>Cylinder Coupling Assembly</u> (Fig. 2)
  - A. A cylinder coupling assembly is installed on each oxygen cylinder outlet fitting. It provides close coupled mounting connections for the pressure transducer and pressure reducer.

35-21-00









Unitized Valve Assembly (Example)
Figure 4

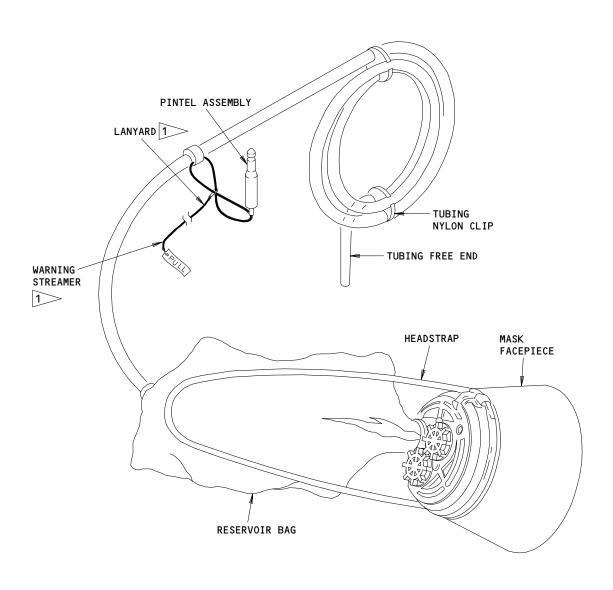
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1 MASKS WITH WARNING STREAMERS

Passenger Oxygen Mask Figure 5

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Page 12
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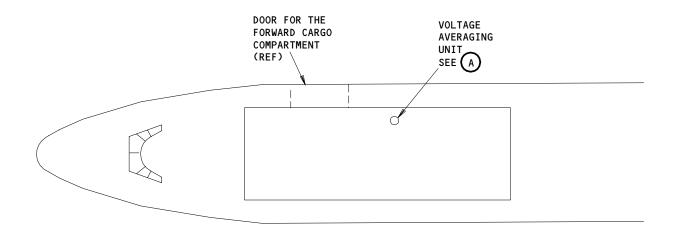
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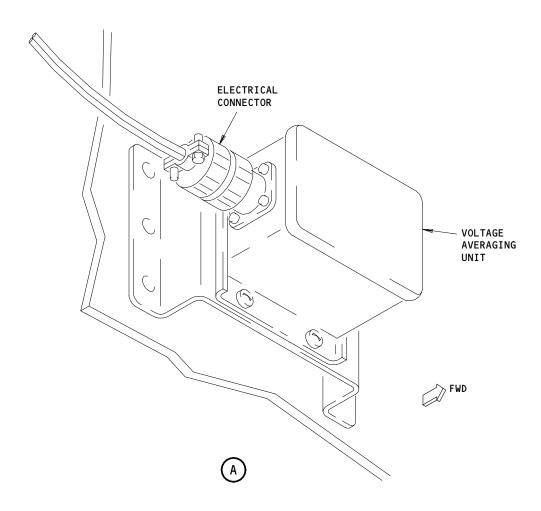


- B. A brush-like wire element approximately 3 inches long, inserted tightly into the coupling assembly, functions as a thermal compensator to aid in heat dissipation.
- 10. Pressure Reducer (Fig. 2)
  - A. The pressure reducer attaches to the cylinder coupling assembly and decreases cylinder pressure of 600 to 1850 psig to a pressure of 600 to 680 psig. When pressure at the inlet port falls below 600 psig, outlet pressure is equal to inlet pressure. Due to the length of the distribution lines between the cylnder coupling assemblies and the continuous flow control units, utilization of the reducer provides safer system operating pressures. Differential pressures on the inlet and outlet sides of the valve modulate the valve piston to provide the desired pressure output.
- 11. <u>Oxygen Pressure Transducer</u> (Fig. 2)
  - A. Cylinder pressure indication is achieved through pressure transducers which are components of each cylinder coupling assembly. The transducer senses cylinder pressure and converts it to a variable electrical signal which is fed to the voltage averaging unit. The output of the voltage averaging unit is then fed to the EICAS. The transducer also contains a voltage regulating zener diode which maintains regulated dc output to the voltage averaging unit. This ensures that the transducer output signal is proportional to the pressure input to the transducer regardless of fluctuations in supply voltage.
- 12. Voltage Averaging Unit (Fig. 6)
  - A. The voltage averaging unit is installed in the forward cargo compartment RH ceiling beam, aft of the cargo door. The voltage outputs of the passenger oxygen cylinder pressure transducers feed into the voltage averaging unit. These voltages are averaged within the unit to provide the input signal to the EICAS.
- 13. <u>Operation</u>
  - A. Functional Description (Fig. 7 and 8)
    - (1) The passenger oxygen system stores oxygen under high pressure and supplies oxygen at low pressure to each passenger and attendant. The system is actuated automatically by an aneroid in each flow control unit when cabin pressure reaches or exceeds an equivalent of 13,250 to 14,500 foot altitude. The system can also be activated by operating a switch on the P5 Pilot's Overhead Panel in the event the system fails to activate automatically or at the discretion of the flight crew.

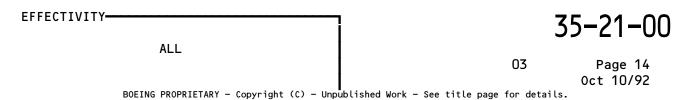
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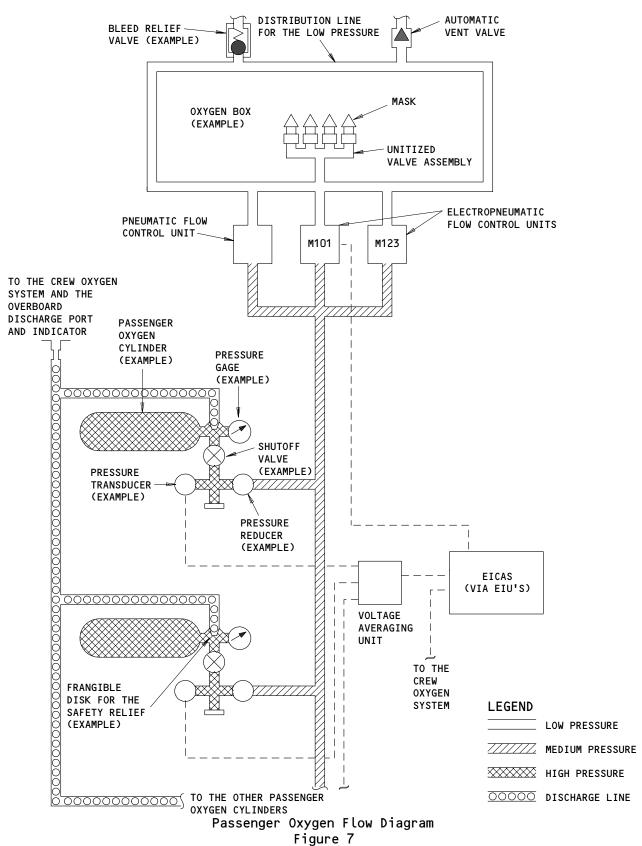




Voltage Averaging Unit Figure 6





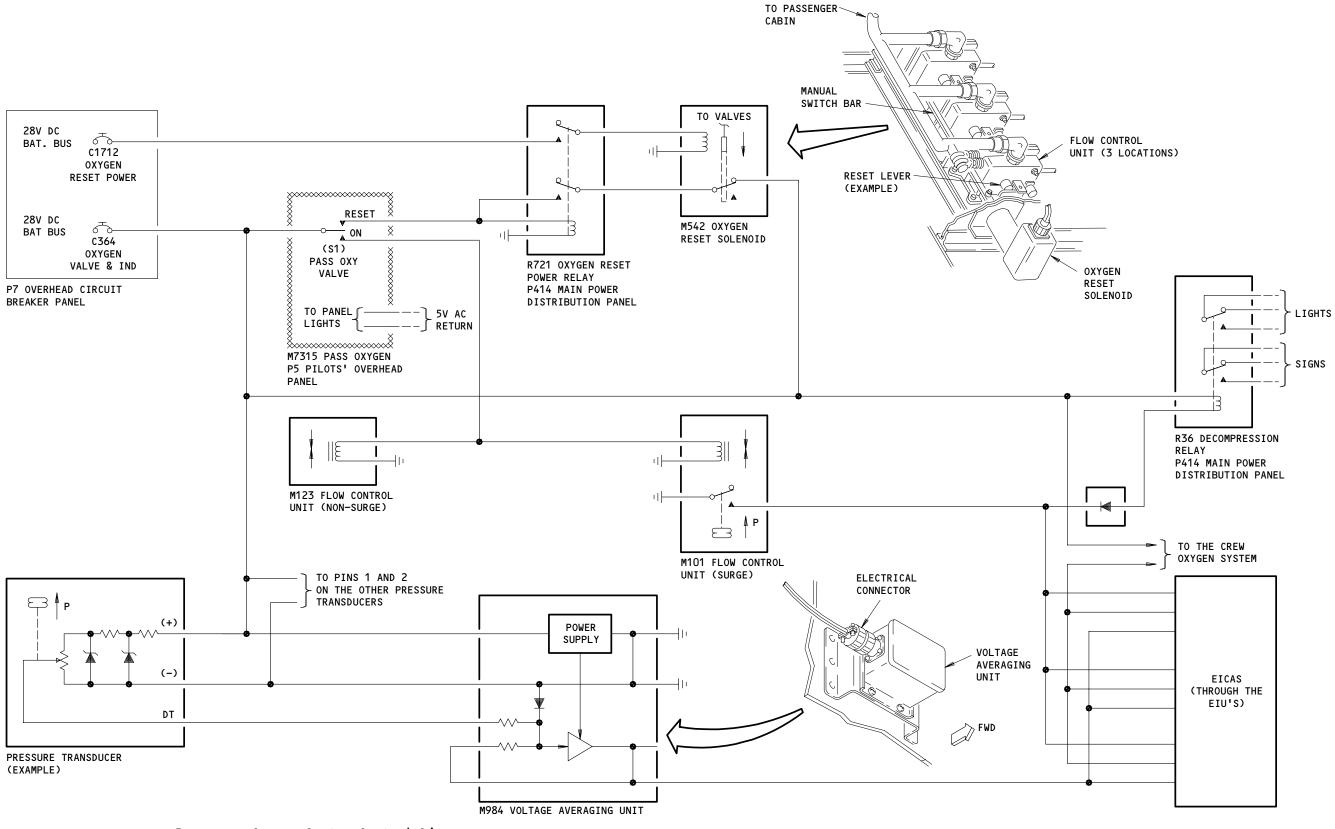


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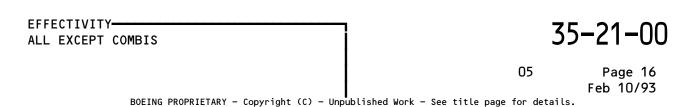
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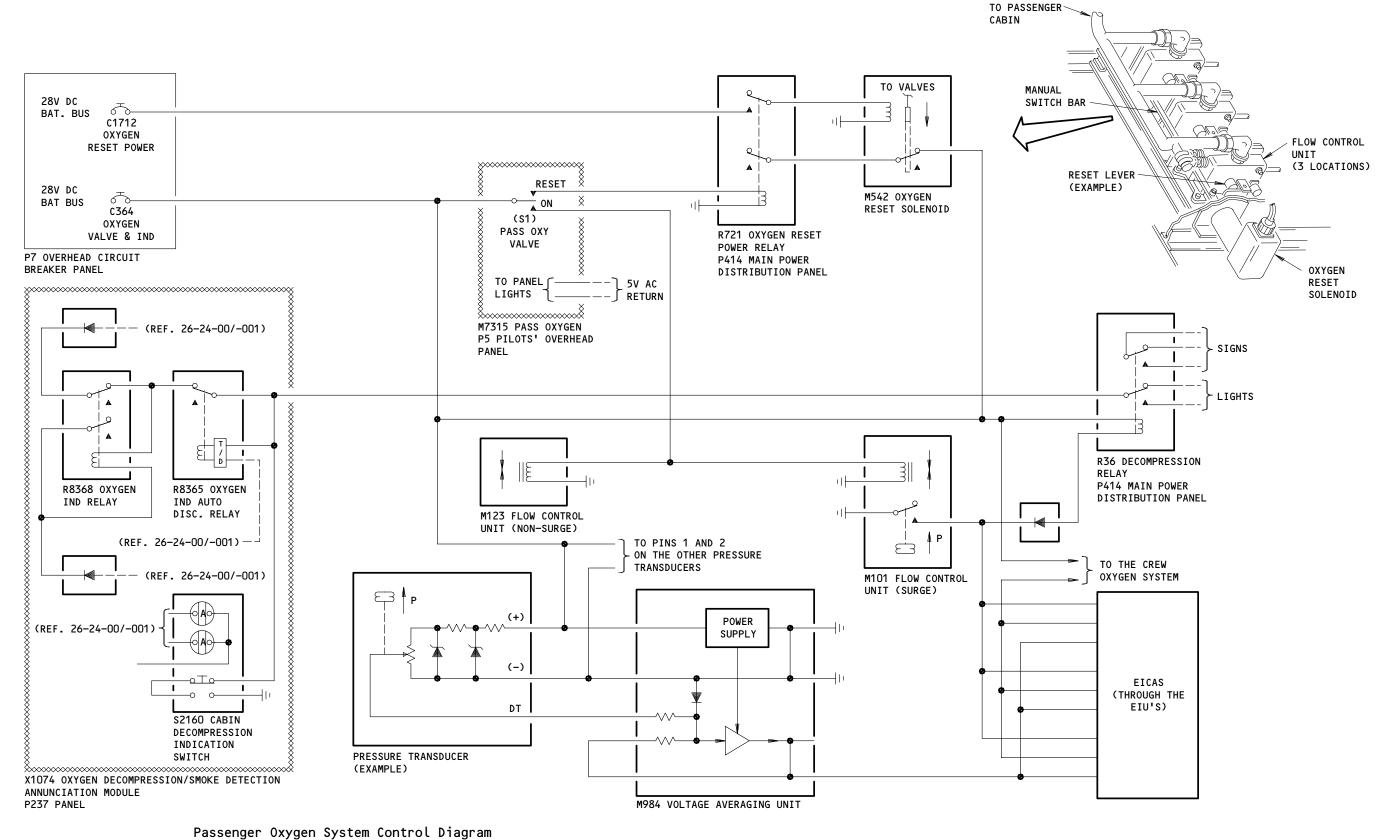


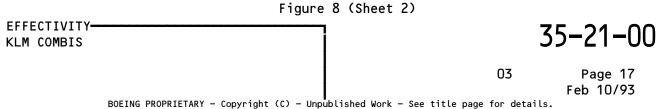


Passenger Oxygen System Control Diagram Figure 8 (Sheet 1)











- (2) When the system is actuated, high pressure oxygen flows from the cylinder to the pressure reducer. Medium pressure oxygen flows from the pressure reducer to the flow control units and low pressure oxygen flows from the control units to the oxygen boxes. During the first few seconds, the flow control surge units release a pressure surge that opens the oxygen box door, allowing the masks to drop within easy reach of the passengers.
- (3) When the mask is pulled to the passengers face, a short cord attached to the mask hose pulls the pintel assembly from the mask shutoff valves in the unitized valve assembly, allowing the valve to open and oxygen to flow to the mask.
- (4) The user of the mask inhales pure oxygen until the reservoir bag on the mask is empty, then inhales air during the remainder of the inhalation cycle. The quantity of oxygen supplied to the mask is controlled by the altitude compensation mechanism in the flow control units which senses cabin pressure.
- (5) Actuation of the system closes a pressure switch on the low pressure side in the flow control unit (Fig. 8). This switch provides a ground for the R36 decompression relay on the P414 Main Power Distribution Panel and signals the EICAS to display the advisory message " PASS OXYGEN ON ".
- (6) KLM COMBIS; actuation of the system closes a pressure switch on the low pressure side in the flow control unit (Fig. 8). This switch provides a ground for the R36 decompression relay on the P414 Main Power Distribution Panel and signals the emergency annunciation system aural and visual warnings.
- B. Controls (Fig. 7 and 8)
  - (1) Normal Control
    - (a) With 28-volt dc power available at the battery bus, close the OXYGEN VALVE & IND circuit breaker on the P7 Overhead Circuit Breaker Panel and check the EICAS for passenger oxygen system pressure. If system is properly serviced, the aneroid controls in the flow control units automatically initiate oxygen flow to the oxygen box when cabin altitude increases to 13,250 to 14,500 feet.

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#### (2) Alternate Control

(a) The system can be operated by placing the PASS OXYGEN switch, on the P5 Pilot's Overhead Panel, in the ON position. This causes the control unit solenoid to override the aneroid control and open the actuation valves in the electropneumatic control units, regardless of cabin altitude.

NOTE: When the system is pressurized by placing the switch in the ON position, the masks will drop, regardless of cabin altitude.

- (3) Flow Control Unit Resetting
  - (a) The flow control units must be reset after actuation or the system is inoperable.
    - Reset is accomplished by a solenoid actuated by momentarily moving the PASS OXYGEN switch on P5 Pilot's Overhead Panel to RESET position.

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## PASSENGER OXYGEN SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ADAPTER - TEST	7	2	FWD CARGO COMPT, RIGHT SIDEWALL	
AVERAGING UNIT - VOLTAGE, M984	8	1	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-10
BOX - OXYGEN	2		THROUGHOUT MAIN AND UPPER DECK AREAS	35-21-19
CIRCUIT BREAKERS	1		FLT COMPT, P7	*
OXYGEN VALVE & IND, C364		1	7D4	
OXY RESET PWR, C1712		1	7D3	
COMPUTERS - (REF 31-61-00/101, FIG. 101)				
EICAS INTERFACE UNIT C, M7352		1		
EICAS INTERFACE UNIT L, M7353		1		
EICAS INTERFACE UNIT R, M7351		1		
CONTROL UNIT - ELECTROPNEUMATIC CONTINUOUS FLOW, M101,M123	6	2	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-04
CONTROL UNIT - PNEUMATIC CONTINUOUS FLOW	6	_1	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-04
COUPLING - ASSEMBLY	7	3	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-12
CYLINDER - PASSENGER OXYGEN	6	2>	FWD CARGO COMPT, RIGHT SIDEWALL	12-15-08
GAGE - PRESSURE	7	3	FWD CARGO COMPT, RIGHT SIDEWALL	*
MASK - PASSENGER OXYGEN			IN EACH OXYGEN BOX	35-21-06
PORT AND INDICATOR - OVERBOARD DISCHARGE	1	1	FWD CARGO COMPT, RIGHT SIDEWALL	35-11-10
		_	(OUTSIDE ON AIRPLANE SKIN)	
REDUCER - PRESSURE	7	3>>	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-12
RELAY - DECOMPRESSION, R36	1	1	P414 PANEL	35-21-17
SOLENOID - OXYGEN SYSTEM RESET	7	1	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-18
TRANSDUCER - PRESSURE	7	3>	FWD CARGO COMPT, RIGHT SIDEWALL	35-21-11
VALVE - AUTOMATIC VENT	2	1	ABOVE RIGHT AFT PASSENGER ENTRY DOOR	35-21-02
VALVE - BLEED RELIEF	2	4>	IN VARIOUS AREAS THE MAIN AND UPPER DECK AREAS DIST LINES	35-21-08
VALVE ASSEMBLY - UNITIZED	5	1>	IN EACH OXYGEN BOX	35-21-05

<sup>\*</sup> SEE THE WDM EQUIPMENT LIST

1> THE NUMBER OF OXYGEN BOXES, MASKS, AND UNITIZED VALVE ASSEMBLIES CAN CHANGE

2 AS SHOWN IN FWD RIGHT CARGO COMPT, RIGHT SIDEWALL

3 ATTACHED TO EACH PASSENGER OXYGEN CYLINDER

4> THE NUMBER OF BLEED RELIEF VALVES CAN CHANGE

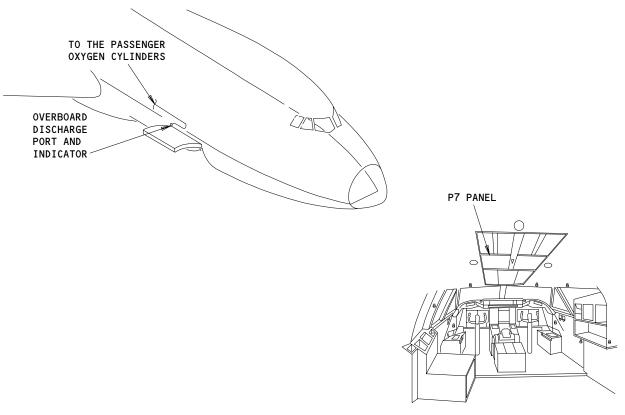
Passenger Oxygen System - Component Index Figure 101

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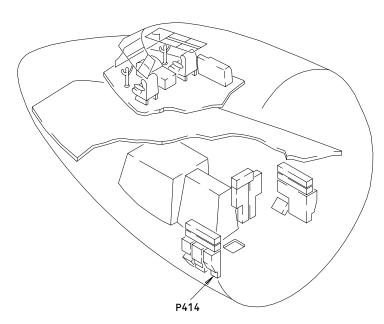
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Passenger Oxygen System - Component Location Figure 102 (Sheet 1)

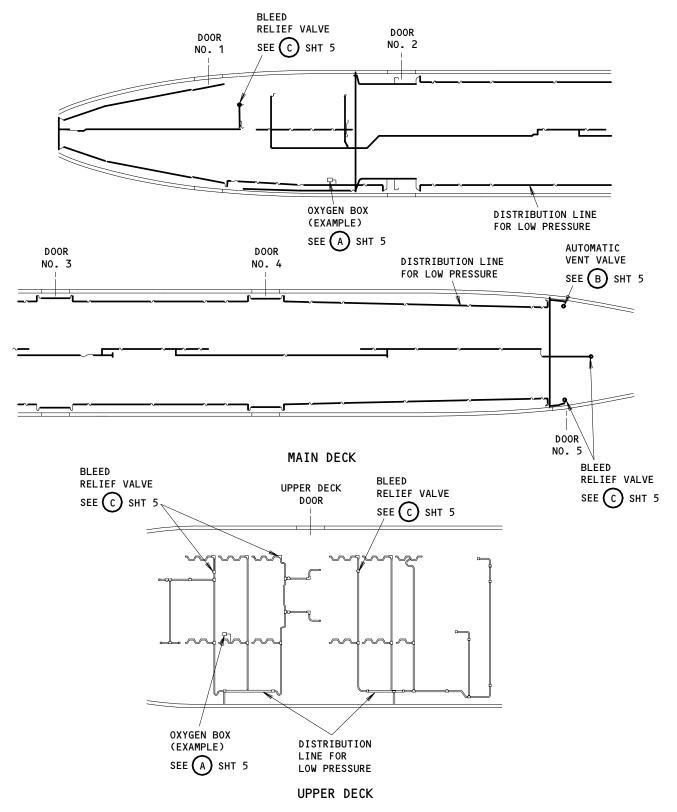
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Passenger Oxygen System - Component Location Figure 102 (Sheet 2)

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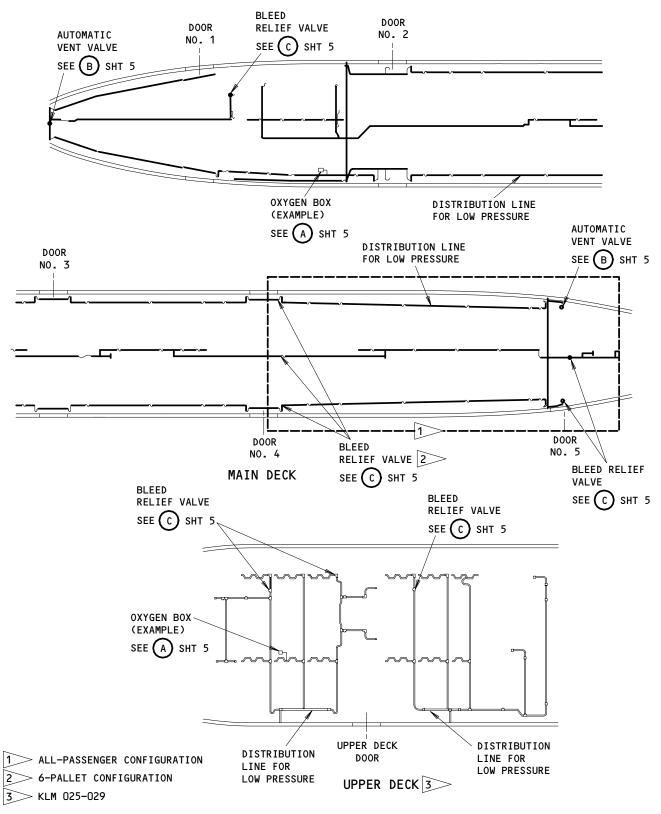
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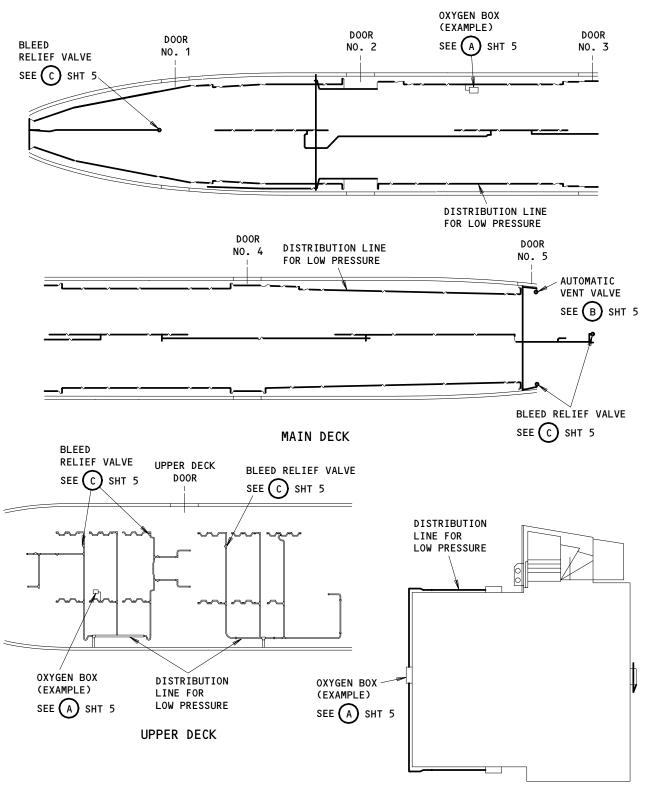


## FAULT ISOLATION/MAINT MANUAL



Passenger Oxygen System - Component Location Figure 102 (Sheet 3)





CREW REST ABOVE DOOR NO. 5

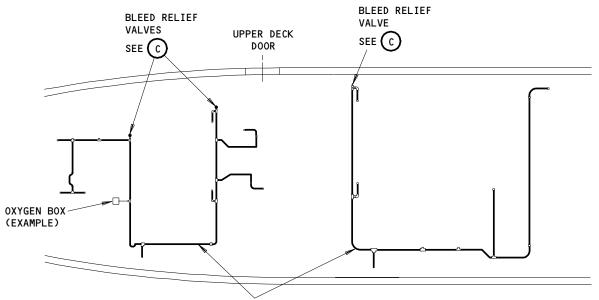
Passenger Oxygen System - Component Location Figure 102 (Sheet 4)

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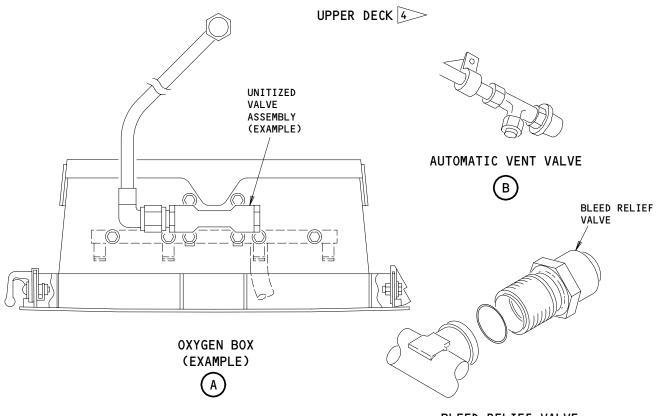
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DISTRIBUTION LINE FOR LOW PRESSURE



**BLEED RELIEF VALVE** 

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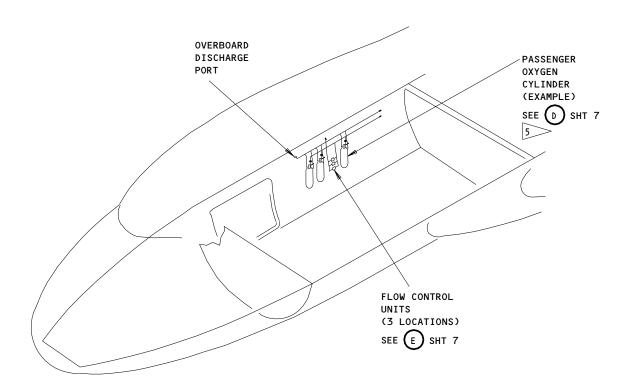
Passenger Oxygen System - Component Location (Details from Sht 2,3 and 4) Figure 102 (Sheet 5)

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5 NUMBER OF CYLINDERS CAN CHANGE

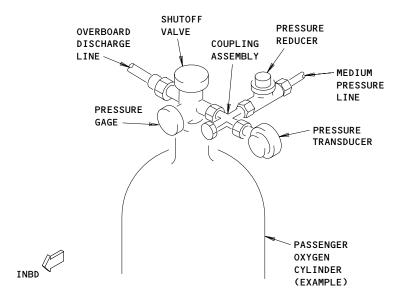
Passenger Oxygen System - Component Location Figure 102 (Sheet 6)

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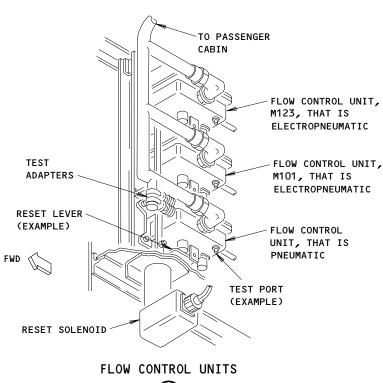
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## PASSENGER OXYGEN CYLINDER (EXAMPLE)







Passenger Oxygen System - Component Location (Details from Sht 6)
Figure 102 (Sheet 7)

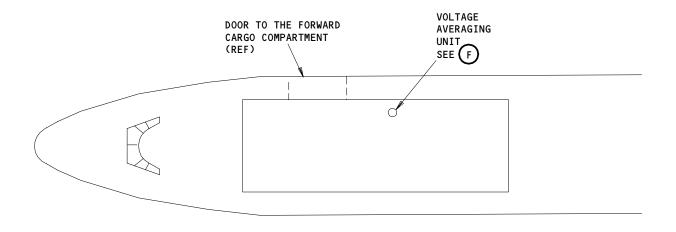
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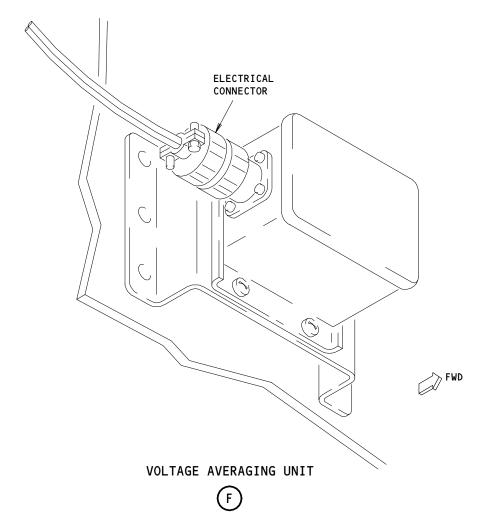
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Passenger Oxygen System - Component Location Figure 102 (Sheet 8)

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## PASSENGER OXYGEN SYSTEM - FAULT ISOLATION

## 1. General

- A. Fault isolation for the passenger oxygen system uses visual checks, system tests, EICAS display units, and other test equipment. These test isolate the problems and supply solutions.
- B. The fault isolation for the passenger oxygen system you may need to add the electrical power and (or) the power to the EICAS.
- 2. Fault Isolation Procedures

FIGURE	TITLE
Figure 103	Passenger Oxygen Pressure Indication Abnormal

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## **PREREQUISITES**

MAKE SURE THIS CIRCUIT BREAKER IS CLOSED: 7D4

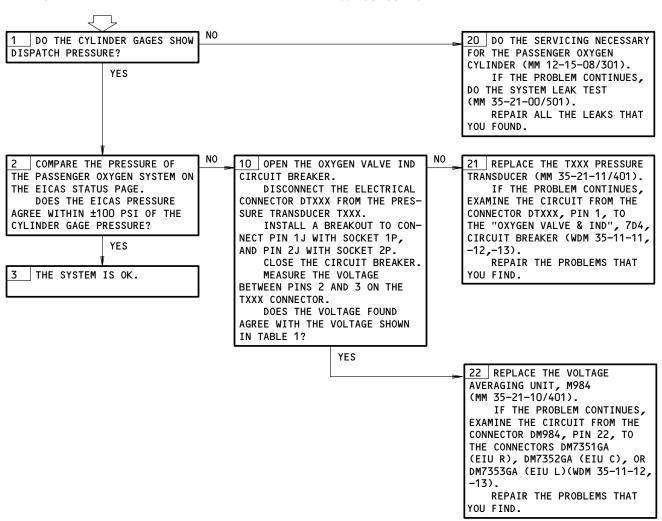
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (MM 24-22-00/201) APPLY POWER TO EICAS (MM 31-61-00/201)

PASSENGER OXYGEN PRESSURE INDICATION **ABNORMAL** 

WARNING: BEFORE MAINTENANCE, EXAMINE THE OXYGEN

SYSTEM SAFETY PRECAUTIONS AND GENERAL MAINTENANCE INSTRUCTIONS GIVEN IN

MM 35-00-00/201.



Passenger Oxygen Pressure Indication Abnormal Figure 103 (Sheet 1)

EFFECTIVITY-ALL

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## EXAMPLE:

THE DC VOLTAGE IS APPROXIMATELY 3.65V, IF THE PRESSURE INPUT IS 1625 PSIG.

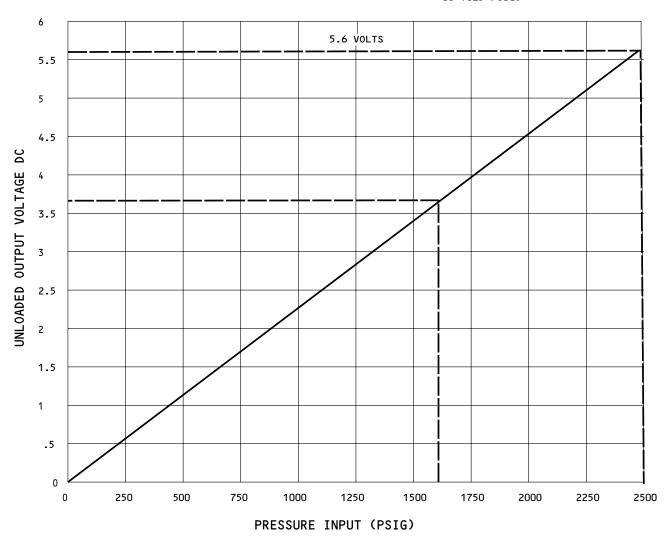


TABLE 1

Passenger Oxygen Pressure Indication Abnormal Figure 103 (Sheet 2)

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## **PREREQUISITES**

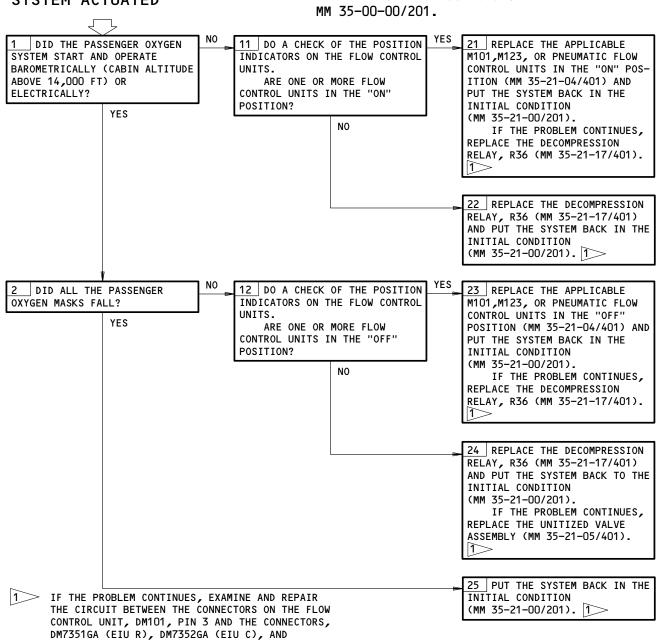
ELECTRICAL POWER (MM 24-22-00/201) APPLY POWER TO EICAS (MM 31-61-00/201)

CB'S: 7D3,7D4

# PASSENGER OXYGEN SYSTEM ACTUATED

WARNING: BEFORE MAINTENANCE, EXAMINE THE OXYGEN

SYSTEM SAFETY PRECAUTIONS AND GENERAL MAINTENANCE INSTRUCTIONS GIVEN IN



Passenger Oxygen System Actuated Figure 104

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DM7353GA (EIU L) PIN H5 (WDM 35-11-11,-12).

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## PASSENGER OXYGEN SYSTEM - MAINTENANCE PRACTICES

#### 1. General

- These tasks are included in this procedure:
  - (1) Passenger oxygen cylinder wire change
  - (2) Put the airplane back in its usual condition after mask operation.
- B. A minor wiring change to the connector on the voltage averaging unit is needed when the number of active passenger oxygen cylinders is changed. The wiring change is needed to register the correct system pressure on the EICAS status page.
- C. The voltage averaging unit is located in the ceiling beam in the right side of the forward cargo compartment. It is also aft of the cargo door at approximately Sta 740. Access is through the access panels to the passenger oxygen cylinders.

TASK 35-21-00-862-001

2. Passenger Oxygen Cylinder Wire Change

NUMBER OF PASSENGER OXYGEN CYLINDERS	JUMPER PINS
2	11-12
3	11–13
4	11–14
5	11–15
6	11–16
7	11–17
8	11–18
9	11–19

Connector Wiring Change Figure 201

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- A. Consumable Materials
  - (1) G00294 Tape Masking Permacel No. 76
- B. References
  - (1) AMM 24-22-00/201, Manual Control
  - (2) AMM 35-00-00/201, Oxygen
  - (3) AMM 35-21-00/501, Passenger Oxygen System
  - (4) IPC 35-21-10 Fig. 1
  - (5) SSM 35-11-01
  - (6) WDM 35-11-13
- C. Access
  - (1) Location Zone

124 Fwd Cargo Container Compartment Aft Half, Right

D. Procedure

s 912-022

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 862-002

- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 012-003

(3) Open the access panel to the passenger oxygen cylinders.

NOTE: The access panel is attached by snaps and velcro tape.

s 862-021

(4) Count the number of oxygen cylinders that are installed.

s 032-004

ALL

(5) Disconnect the electrical connector DM984 from the voltage averaging unit M984.

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s 432-006

(6) Connect the electrical connector to the voltage averaging unit.

s 862-007

(7) Supply the electrical power (Ref 24-22-00/201).

s 862-008

(8) Attach a DO-NOT-CLOSE tag and close this circuit breaker: (a) P7 Overhead Circuit Breaker Panel

1) 7D4 OXYGEN VALVE & IND

s 782-009

(9) Do the task: "Operation Test - Passenger Oxygen System" (Ref 35-21-00/501).

NOTE: It is only necessary to complete up to the paragraph "Perform Pressure Indication Test" of the task "Operation test - Passenger Oxygen System".

s 412-010

(10) Close the access panels to the passenger oxygen cylinders.

NOTE: The access panel are attached by snaps and velcro tape.

s 862-011

(11) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

TASK 35-21-00-862-012

- 3. Put the Airplane Back in its Usual Condition After Mask Operation
  - A. References
    - (1) AMM 12-15-08/301, Oxygen Servicing
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 35-00-00/201, Oxygen
    - (4) AMM 35-21-06/401, Passenger Oxygen Mask
    - (5) SSM 35-11-01

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- B. Access
  - (1) Location Zone

Fwd Cargo Container Compartment, Aft Half Right
Upper Half Fuselage

C. Procedure

s 862-013

- (1) Remove the DO-NOT-CLOSE tags and close these circuit breaker:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXY RESET PWR

s 862-014

(2) Supply the electrical power (Ref 24-22-00/201).

s 862-015

(3) Reset the the flow control units.

NOTE: Flow control units will not reset if the cabin pressure is above 12,000-foot altitude.

- (a) Momentarily move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET.
- (b) Check that the indicators on the flow control units have moved away from ON.

s 862-016

(4) Check that the NO SMOKING and the ceiling lights extinguish.

s 872-018

(5) Open the ten mask shutoff valves to bleed the passenger oxygen system.

s 862-019

(6) PSU MASK;

Install the masks in the oxygen box:

(a) Remove the oxygen mask hoses from the outlet nozzles.

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- (b) Pull the valve clip assembly out of the unitized valve assembly and remove the masks from the oxygen box.
- (c) Close the oxygen box door on the PSU.
- (d) Do the task: "Install the PSU Oxygen Mask" (Ref 35-21-06/401).

## s 432-023

(7) PASSENGER ATTENDANT'S OXYGEN MASK;
Do the task: "Install Passenger Attendant's Oxygen Mask"
(AMM 35-21-06/401).

## s 612-020

(8) Do the task: "Passenger Oxygen System Servicing (Cylinder Replacement)" (Ref 12-15-08/301).

EFFECTIVITY-

ALL

35-21-00



## OXYGEN SYSTEM - ADJUSTMENT/TEST

## 1. General

- A. These tasks are included in this procedure:
  - (1) Oxygen System Operational Test
  - (2) Oxygen Alternate Electrical Actuation Operational Test
  - (3) Oxygen System Test
  - (4) Oxygen System Low Pressure Leak Test
  - (5) Oxygen System High Pressure Leak Test
  - (6) Simulated Automatic Actuation and Alternate Actuation Test
  - (7) Oxygen Mask Drop Test.
- B. The oxygen system usually operates automatically (with an alternate override) which is set by the cabin conditions. The operational test is a check of the system for correct servicing to meet the dispatch requirements.
- C. A system test is done when maintenance is only partially complete which leaves the integrity of the system in doubt. It is also done when it is necessary to meet a periodic functional test requirements.

#### TASK 35-21-00-705-001

## 2. Oxygen System Operational Test

- A. Standard Tools and Equipment
  - (1) Rod Metal, 1/4-inch diameter
- B. Consumable Materials
  - (1) GO2311 Tape Masking Non Residue, 3M-226
- C. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) AMM 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 32-09-02/201, Air/Ground Relays
  - (6) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (7) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (8) AMM 35-00-00/201, Oxygen
  - (9) AMM 35-21-00/501, Oxygen System

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ALL



- (10) AMM 35-21-06/401, Oxygen Mask
- (11) WDM 35-11-11, 35-11-12, 35-11-13
- (12) SSM 35-11-01
- D. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right
    - 221 Control Cabin, Left
    - 222 Control Cabin, Right
- E. Preconditions

s 865-482

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical power on (AMM 24-22-00/201).
  - (b) Integrated Display System (IDS), serviceable (AMM 31-61-00/501).
  - (c) Passenger Address and Entertainment System, serviceable (AMM 23-30-01/001).
  - (d) Passenger and Upper Deck Compartment Illumination lights on.
  - (e) Oxygen System, serviceable (AMM 35-21-00/501).
  - (f) EICAS, serviceable (AMM 31-61-00/201).
  - (g) Airplane must be in the Ground Mode (AMM 32-09-02/201).
- F. Prepare for Airplane Dispatch Requirement and Pressure Indication Test

s 865-002

(1) Supply the electrical power (AMM 24-22-00/201).

s 015-003

(2) Open the access panels to the oxygen cylinders.

s 865-005

- (3) Close this circuit breaker and attach a DO-NOT-REMOVE tag:
  - (a) P6 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 865-006

- (4) Do the task: "Obtain Airplane Information Report" (AMM 31-61-00/201) to apply power to the EICAS (if necessary).
- G. Do the Airplane Dispatch Requirement Test

s 715-007

(1) Make sure the shutoff valves on the oxygen cylinders are opened.

s 785-008

(2) Make sure the pressure shown on each oxygen cylinder meets the requirement needed for dispatch.

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s 215-009

(3) Make sure the PASS OXYGEN switch on the P5 Pilot's Overhead Panel is in the NORM position.

s 215-232

(4) Also make sure the switch guard on the P5 panel is closed.

s 715-010

- (5) Make sure the PASS OXYGEN ON message on the EICAS does not show on the status page.
- H. Do the Pressure Indication Test

s 785-011

(1) Make sure the pressure shown on each oxygen cylinder meets the requirement needed for dispatch.

s 865-013

(2) Set the EIU select switch on the P2-4 panel to L.

s 785-014

(3) Make sure the pressure shown on the EICAS is within 100 psi of the average cylinder pressure.

s 865-016

(4) Set the EIU select switch on the P2-4 panel to C.

s 785-017

(5) Make sure the pressure shown on the EICAS is in 100 psi of the average cylinder pressure.

s 865-018

(6) Set the EIU select switch on the P2-4 panel to R.

s 785-019

(7) Make sure the pressure shown on the EICAS is in 100 psi of the average cylinder pressure.

s 865-020

(8) Remove the power from the EICAS if it is not necessary (AMM 31-61-00/201).

s 865-021

(9) Remove electrical power if it is no longer necessary (AMM 24-22-00/201).

S 415-145

(10) Close all the access panels to the oxygen cylinders.

EFFECTIVITY-

35-21-00

ALL



TASK 35-21-00-715-414

## Oxygen Cylinder Alternate (Electrical) Actuation Operational Test

- A. Standard Tools and Equipment
  - (1) Rod Metal, 1/4-inch diameter
- B. Consumable Materials
  - (1) GO2311 Tape Masking Non Residue, 3M-226
  - (2) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
  - (3) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
  - (4) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - (5) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
  - (6) GO0019 OXYGEN Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
- C. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) AMM 35-00-00/201, Oxygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) WDM 35-11-11, 35-11-12, 35-11-13
  - (10) SSM 35-11-01
- D. Access
  - (1) Location Zones

ALL

- 124 Forward Cargo Container Compartment, Aft Half Right
- 221 Control Cabin, Left
- 222 Control Cabin, Right

EFFECTIVITY-

35-21-00



#### E. Preconditions

S 865-483

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical power (AMM 24-22-00/201).
  - (b) Passenger Address and Entertainment System (AMM 23-30-01/001).
  - (c) Integrated Display System (IDS) (AMM 31-61-00/501).
  - (d) Passenger Compartment lights (AMM 33-21-00/001).
  - (e) Upper Deck Passenger Compartment Lights (AMM 33-28-00/001).
  - (f) Oxygen system (AMM 35-00-00/201).
  - (g) Airplane in Ground Mode (AMM 32-09-02/201).

## F. Procedure

s 915-254

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-207

(2) Supply the electrical power (AMM 24-22-00/201).

s 865-208

- (3) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXYGEN RESET PWR
    - 3) KLM COMBIS;

7H2O CARGO SMOKE DETECT MAIN DECK IND

s 865-209

(4) Do the task: "Obtain Airplane Information Report" (AMM 31-61-00/201) to apply power to the EICAS (if necessary).

s 865-308

(5) Do the task: "The ACESS BITE Test" (AMM 23-30-01/001) to turn on the ACESS system (if necessary).

s 865-211

(6) Open the access panels to the oxygen cylinders.

s 715-213

ALL

(7) Make sure the shutoff valves on the oxygen cylinders are opened.

EFFECTIVITY-

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s 495-097

(8) If you use portable "test" cylinder(s), do the steps that follow:

NOTE: The portable "test" cylinder(s) must have 1500-1850 psig of pressure and provide sufficient volume of oxygen to do the test.

(a) Close the shutoff valve on each oxygen cylinder.

NOTE: The shutoff valves can be closed by hand which is equivalent to 25 pound-inches.

WARNING: LOOSEN THE PLUG CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (b) Remove the plug at point B (Fig. 501) and connect the portable test line to point B.
- (c) Open the shutoff valve on each oxygen "test" cylinder.

s 865-216

(9) Loosely install the oxygen box doors so the doors do not unlatch and the oxygen masks do not drop.

<u>NOTE</u>: Use the tape or other applicable means to make sure the door does not drop.

s 785-217

(10) Compare the pressure on the EICAS with the average of the pressures on the oxygen cylinder gages.

<u>NOTE</u>: See the paragraph "Passenger Oxygen Pressure Indication Test".

s 865-218

(11) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.

s 735-219

ALL

- (12) Do a visual check that these things occur:
  - (a) All the oxygen box doors unlatch.
  - (b) PASS OXYGEN ON advisory message shows on the EICAS.
  - (c) Indicators on the top, and the center flow control units move to ON.

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02A.1



(d) KLM COMBIS;

Horn sounds for 1 minute ±10 seconds on the P237 Smoke-Detection and the Oxygen-Decompression-Annunciation Panel found aft of the side cargo door.

NOTE: The HORN CUTOFF button on the P237 panel can shutoff the horn before the automatic shutoff at 1 minute.

(e) KLM COMBIS;

DECOMP light can be seen on the P237 Smoke-Detection and the Oxygen-Decompression-Annunciation Panel found aft of the side cargo door.

s 865-220

(13) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

s 865-223

(14) Open 10 mask shutoff valves in the oxygen boxes and bleed the system pressure down to 0.0 psi.

s 735-222

- (15) Do a visible check that these things occur:
  - (a) PASS OXYGEN ON advisory message does not show on the EICAS.
  - (b) Indicators on the top and the center flow control unit move away from ON.
  - (c) KLM COMBIS;

DECOMP light goes off on the P237 Smoke-Detection and the Oxygen-Decompression-Annunciation Panel found aft of the side cargo door.

S 865-224

(16) Do the task: "Install the Oxygen Mask" if it is necessary (AMM 35-21-06/401).

S 865-225

- (17) Close the oxygen box doors:
  - (a) Carefully push a 1/4-inch Allen wrench or metal rod through the access hole and lift the plunger on the latch.
  - (b) Lift the oxygen box door until it engages the latch and remove the Allen wrench or the metal rod.

s 865-226

ALL

- (18) Remove the tape or the other devices used to hold the oxygen boxes.
  - (a) Close the shutoff valve on each oxygen "test" cylinder.
  - (b) Disconnect the portable test line at point B and install plug.
  - (c) Open the shutoff valve on each oxygen cylinder.

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1/. /



s 215-160

(19) Do a check at the oxygen cylinder and test connections for leaks with leak detection compound.

s 615-228

(20) Do the task: "Oxygen System Servicing (Cylinder Replacement)" (AMM 12-15-08/301) if it is necessary.

s 415-093

(21) Close all the access panels to the oxygen cylinders.

s 865-230

(22) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 35-21-00-705-022

- 1. Oxygen System Test (Fig. 501)
  - A. General
    - (1) The Simulated Automatic Actuation Test, Alternate (Electrical)
      Actuation Test, and the Oxygen Mask Drop Test can be done with a
      portable test cylinder. They can also be done with one of the
      oxygen cylinders installed on the airplane. The High-Pressure Leak
      Test must be done with a portable test cylinder only.
  - B. Special Tools and Equipment
    - (1) ME65B50263-1 Gauge Pressure, 0-30 psi and Hose Assembly, Ashcroft P/N 1009, Stratford, Connecticut (Gage) and Hydraflow Inc., Los Angeles, California (Hose)
  - C. Standard Tools and Equipment
    - (1) Barometer (to determine atmospheric pressure in mm Hg)
    - (2) Caps and Plugs Package of Clean, Protective
    - (3) Oxygen cart (oxygen quality air), or Cylinder Portable Test (0-1850 psi) - Scott Aviation, 225 Erie Street, Lancaster N.Y. (if applicable)

NOTE: As many as three portable test cylinders are necessary for the Simulated Automatic Actuation, Alternate (Electrical) Actuation, and the Oxygen Mask Drop Tests.

- (4) Gauge Pressure, 0-150 psi
- (5) Gauge Pressure, 0-2000 psi with an accuracy of  $\pm$  2-1/2%, with graduations no more that 100 psi, and a gauge diameter of not less than 4 inches
- (6) Reducer Pressure, 15 psig (use with the portable test cylinder)
- (7) Rod Metal, 1/4-inch diameter

ALL

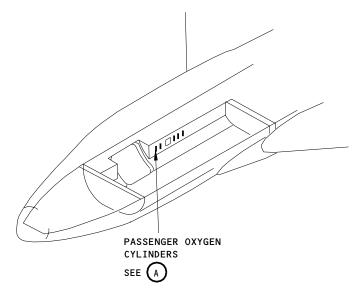
(8) Source - Variable Vacuum, capable of maintaining 25-inch Hg vacuum with minimum flow of 1 cfm

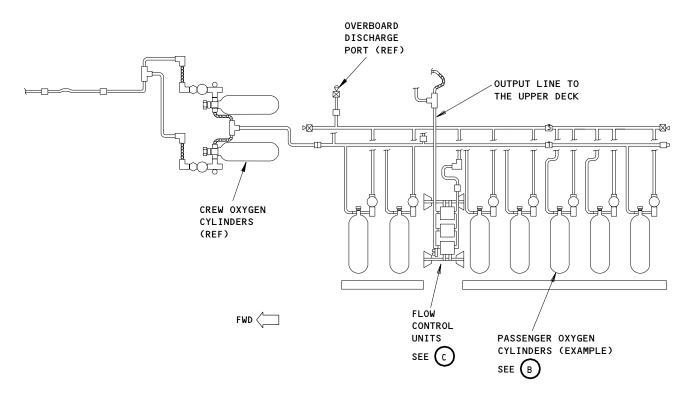
EFFECTIVITY-

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## PASSENGER OXYGEN CYLINDERS



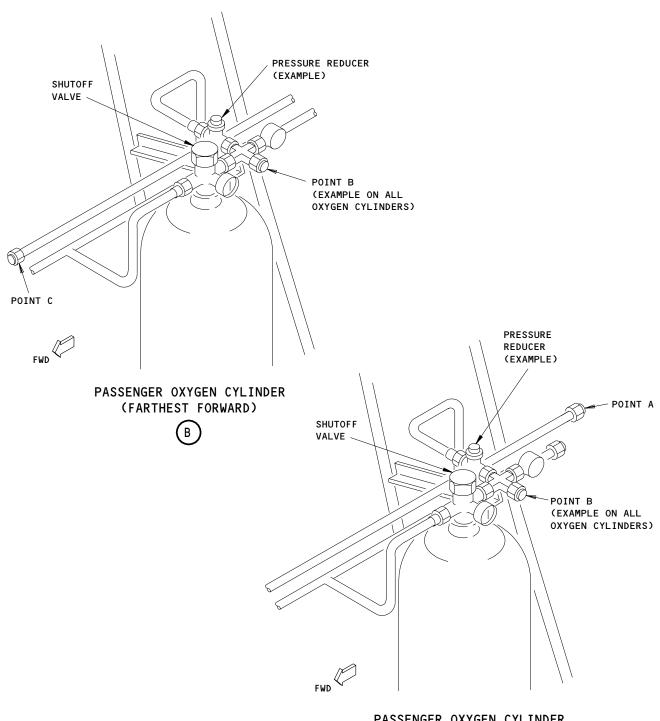
Test Connections Figure 501 (Sheet 1)

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PASSENGER OXYGEN CYLINDER (FARTHEST AFT)

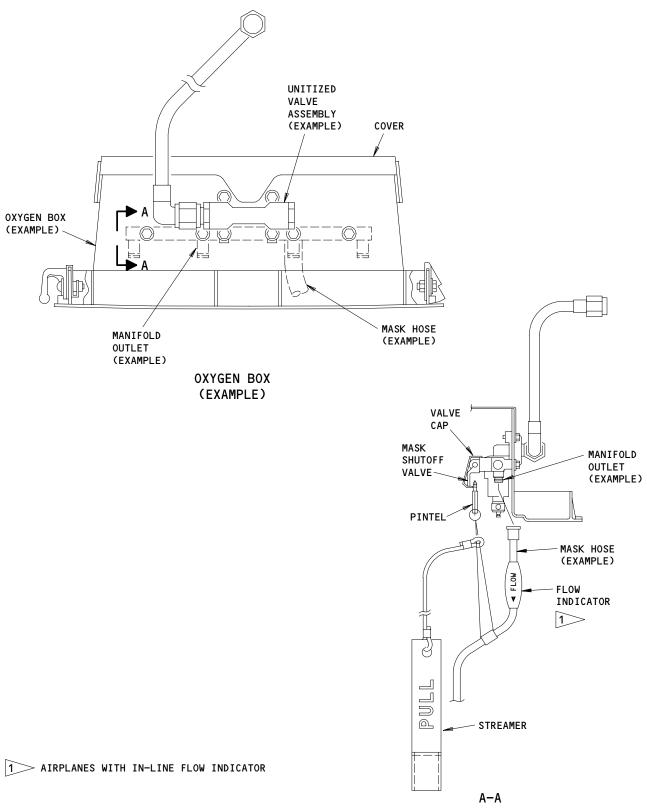
Test Connections Figure 501 (Sheet 2)

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PSU Oxygen Box Figure 502

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01A

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#### D. Consumable Materials

- (1) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
- (2) GOO713 Cloth Clean, Dry, Lint-Free, White Cotton
- (3) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
- (4) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
- (5) G00019 OXYGEN Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
- (6) Tape Masking, J6-3800-0200 (SCOTCH)
- (7) G01505 Copper Lockwire 0.020 inch diameter

## G01505

- E. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) AMM 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) AMM 35-00-00/201, Oxygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) AMM 35-21-08/401, Bleed Relief Valve
  - (10) AMM 35-21-08/501, Bleed Relief Valve
  - (11) WDM 35-21-11, 35-21-12, 35-21-13
  - (12) SSM 35-21-01
- F. Access
  - (1) Location Zones

Forward Cargo Container Compartment, Aft Half Right
Upper Half Fuselage

G. Preconditions

S 865-484

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Passenger Address and Entertainment system (AMM 23-30-01/001).
  - (b) Electrical Power (AMM 24-22-00/201).
  - (c) Integrated Display System (IDS) (AMM 31-61-00/501).
  - (d) Passenger Compartment Lights (AMM 33-21-00/001).
  - (e) Upper Deck Passenger Compartment Lights (AMM 33-28-00/001).
  - (f) Oxygen System (AMM 35-00-00/201).

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(g) Airplane in Ground Mode (AMM 32-09-02/201).

H. Procedure

s 915-289

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 795-236

(2) Do the task: "Oxygen System High Pressure Leak Test"

s 795-237

- (3) Do the task: "Oxygen System Low Pressure Leak Test"
- I. Prepare for a Functional Test of the Pressure Reducer

s 015-429

(1) Open the access panels to the oxygen cylinders.

S 865-431

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(2) Close the shutoff valve on each oxygen cylinder.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

s 485-342

WARNING: LOOSEN THE PLUG CAREFULLY. THE REMAINING OXYGEN CAN RELEASE
WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS
CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO
PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(3) Remove the plug at point C (Fig. 501) and connect a 0-2000 psi pressure gauge to the supply manifold.

s 485-260

(4) Remove the plug or fill line at point B on the pressure reducer on the oxygen cylinder to be tested (Fig. 501).

s 485-311

(5) Connect the portable test cylinder to the oxygen line.

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ALL



S 865-263

(6) Supply the electrical power (AMM 24-22-00/201).

S 865-264

- (7) Remove the DO-NOT-CLOSE tags and close these circuit breakers: (a) P6 Overhead Circuit Breaker Panel
  - 1) 7D4 OXYGEN VALVE & IND
  - 2) 7D3 OXYGEN RESET PWR

S 435-294

(8) Use tape or other applicable means to loosely install the oxygen box doors in the up position.

NOTE: This permits the door to unlatch, but does not let the oxygen masks fall.

s 035-295

- (9) Remove two caps from the weld outlets on the distribution line, for the low pressure, in the passenger cabin.
- J. Do the Functional Test of the Pressure Reducer

S 865-265

WARNING: OPEN THE SHUTOFF VALVES ON THE PORTABLE TEST CYLINDER SLOWLY.
HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH
THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE
AIRPLANE AND EQUIPMENT.

(1) Open the shutoff valve on the portable test cylinder, and pressurize the line to 1500 psig.

s 735-266

(2) Do a visual check of the initial pressure on the 0-2000 psi pressure gage to make sure it is between 600 and 830 psig.

<u>NOTE</u>: The pressure reducer seat will permit leaks downstream and could increase the pressure in the distribution lines to cylinder pressure.

s 735-267

ALL

(3) After the initial pressure surge, make sure the pressure on the 0-2000 psi gage is between 600 and 680 psig.

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s 865-491

(4) Move the PASS OXYGEN (or SUPRNMRY) switch on the P5 Pilot's Overhead Panel to ON (switch automatically moves back to NORMAL).

S 865-268

<u>CAUTION</u>: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(5) Close the shutoff valve on the portable test cylinder.

NOTE: The shutoff valve can be closed with your hand which is equivalent to 25 pound-iches.

s 865-269

(6) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

s 735-271

(7) Make sure the indicators on flow control units move away from ON.

s 085-273

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(8) Slowly disconnect the portable test cylinder from point B (Fig. 501).

S 425-564

(9) Install the plug or fill line at point B (Fig. 501)

s 735-276

(10) Do the Pressure Reducer Functional Test for all other pressure reducers on the oxygen cylinders.

s 865-277

(11) Install the caps to the two welded outlets on the distribution line, for low pressure, in the cabin.

s 415-297

- (12) Close the oxygen mask doors:
  - (a) Carefully put a 1/4-inch Allen wrench or metal rod through the manual release access hole and lift the plunger on the latch.
  - (b) Lift the oxygen box door until it engages the latch and remove the Allen wrench or metal rod.

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ALL



s 865-279

(13) Remove the tape or other devices used to hold the oxygen boxes closed.

s 085-280

(14) Remove the 0-2000 psi pressure gauge from the supply manifold at point C (Fig. 501) and install a plug in the opening.

S 865-432

WARNING: OPEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (15) Open the shutoff valve on each oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed with your hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 795-282

(16) Do a check for leaks at test connections with a leak detection compound.

s 435-283

ALL

(17) Rub the leak detection compound off with a clean cotton cloth immediately after the check.

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s 415-094

(18) Close the access panels to the oxygen cylinders.

s 865-287

(19) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

s 715-317

(20) Do the task: "Oxygen System Simulated Automatic and Alternate (Electrical) Functional System Test".

s 715-318

(21) Do the task: "Oxygen System Mask Drop Test".

TASK 35-21-00-795-235

- Oxygen System High Pressure Leak Test
  - A. Special Tools and Equipment
    - (1) ME65B50263-1 Gauge Pressure, 0-30 psi and Hose Assembly, Ashcroft P/N 1009, Stratford, Connecticut (Gage) and Hydraflow Inc., Los Angeles, California (Hose)
  - B. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean, Protective
    - (2) Cylinder Portable Test, 0-2000 psi (if applicable)

NOTE: As many as three portable test cylinders are necessary for the Simulated Automatic Actuation, Alternate (Electrical)
Actuation, and the Oxygen Mask Drop Tests.

- (3) Gauge Pressure, 0-2000 psi with an accuracy of ± 2-1/2% graduations. The graduations must not be more that 100 psi apart, and a diameter of not less than 4 inches
- (4) Reducer Pressure, 15 psig (use with the portable test cylinder)
- (5) Rod Metal, 1/4-inch diameter
- C. Consumable Materials
  - (1) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
  - (2) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
  - (3) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - (4) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
  - (5) G00019 Oxygen Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
  - (6) GO2311 Tape Masking Non Residue, 3M-226
  - (7) G01505 Copper Lockwire 0.020 inch diameter

EFFECTIVITY-

35-21-00

ALL



#### G01505

- D. References
  - (1) AMM 12-15-08/301, Oxygen
  - AMM 23-30-01/001, Passenger Address and Entertainment ACESS (2)
  - AMM 24-22-00/201, Manual Control (3)
  - AMM 31-61-00/201, Integrated Display System (4)
  - (5) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) 35-00-00/201, 0xygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) AMM 35-21-08/401, Bleed Relief Valve
  - (10) AMM 35-21-08/501, Bleed Relief Valve
  - (11) WDM 35-11-11, 35-11-12, 35-11-13
  - (12) SSM 35-11-01
- E. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right 200 Upper Half Fuselage
- F. Preconditions
  - S 865-485
  - The systems that follow must be installed and serviceable to complete this test:
    - (a) Electrical Power (AMM 24-22-00/201).
    - Passenger Oxygen System in serviceable condition (AMM 35-21-00/501).
    - Airplane must be in the ground mode (AMM 32-09-02/201). (c)
- G. Procedure
  - s 915-238
  - Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).
    - s 015-433

ALL

(2) Open the access panels to the oxygen cylinders.

EFFECTIVITY-

35-21-00



S 865-435

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valves on the oxygen cylinders:

S 425-375

(4) Install the portable test cylinder:

WARNING: LOOSEN THE PLUG CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(a) Remove the plug at point A (Fig. 501).

NOTE: The plug can also be referred to as the dead end plug.

(b) Connect the portable test cylinder and the 0-2000 psi pressure gage to the supply manifold at point A (Fig. 501).

S 865-036

WARNING: OPEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER SLOWLY.
HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH
THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE
AIRPLANE AND EQUIPMENT.

(5) Open the shutoff valve on the portable test cylinder slowly, and start to pressurize the system to a value of 1750 through 1950 psig.

s 865-320

(6) Permit the system to cool down for 1 minute when the pressure reaches 500, 1000 and 1500 psig.

s 865-321

(7) Open the shutoff valves completely or until a point where resistance is felt.

s 865-037

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(8) After the system has become stable, close the shutoff valve on the portable test cylinder.

EFFECTIVITY-

35-21-00

ALL



s 795-038

(9) Make sure no leaks show over a period of 15 minutes on the 0-2000 psi pressure gauge.

s 795-039

(10) If gauge shows a pressure drop, do a check for leaks:

WARNING: OPEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Start to open the shutoff valve on the portable test cylinder slowly, and pressurize the system to a value of 1750 through 1950 psig.
- (b) Permit the system to cool down for 1 minute when the pressure reaches 500, 1000 and 1500 psig.
- (c) Open the shutoff valves on the portable test completely or to a point where resistance is felt.
- (d) Do a check of all the connections for leaks with the leak detection compound.
- (e) Rub off the leak detection compound with a clean cotton cloth immediately after the check.
- (f) Make sure there are no leaks and test again until the system is satisfactory.

s 865-040

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(11) Close the shutoff valve on the portable test cylinder.

NOTE: The shutoff valve on the oxygen cylinder can be closed by hand which is equivalent to 25 pound-inches.

s 085-180

ALL

(12) Remove the portable test cylinder.

WARNING: LOOSEN THE CONNECTIONS ON THE OXYGEN CYLINDER CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly disconnect the portable test cylinder and the 0-2000 psi pressure gauge from the supply manifold at point A (Fig. 501).
- (b) Install the plug at point A (Fig. 501).

35-21-00

EFFECTIVITY-



S 865-436

WARNING: OPEN THE SHUTOFF VALVES ON THE OXYGEN CYLINDERS SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (13) Open the shutoff valves on the oxygen cylinders:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 795-046

(14) Do a check at the oxygen cylinder and test connections for leaks with the leak detection compound.

s 035-239

(15) Rub the leak detection compound off immediately after the check.

S 415-146

(16) Close the access panels to the passenger oxygen cylinders.

TASK 35-21-00-795-240

- 6. Oxygen System Low Pressure Leak Test
  - A. Special Tools and Equipment
    - (1) ME65B50263-1 Gauge Pressure, O-30 psi and Hose Assembly, Ashcroft P/N 1009, Stratford, Connecticut (Gage) and Hydraflow Inc., Los Angeles, California (Hose)
  - B. Standard Tools and Equipment

ALL

- (1) Caps and Plugs Package of Clean, Protective
- (2) Cylinder Portable Test, 0-2000 psi (if applicable)

NOTE: As many as three portable test cylinders are necessary for the Simulated Automatic Actuation, Alternate (Electrical)
Actuation, and the Oxygen Mask Drop Tests.

- (3) Reducer Pressure, 15 psig (use with the portable test cylinder)
- (4) Rod Metal, 1/4-inch diameter

EFFECTIVITY-

35-21-00



#### C. Consumable Materials

- (1) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
- (2) GOO713 Cloth Clean, Dry, Lint-Free, White Cotton
- (3) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
- (4) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
- (5) G00019 Oxygen Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
- (6) GO2311 Tape Masking Non Residue, 3M-226
- (7) G01505 Copper Lockwire 0.020 inch diameter
- D. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) AMM 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 3-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) AMM 35-00-00/201, Oxygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) 35-21-08/401, Bleed Relief Valve
  - (10) 35-21-08/501, Bleed Relief Valve
  - (11) WDM 35-11-11, 35-11-12, 35-11-13
  - (12) SSM 35-11-01
- E. Access
  - (1) Location Zones

Forward Cargo Container Compartment, Aft Half Right
Upper Half Fuselage

F. Preconditions

S 865-486

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical Power (AMM 24-22-00/201).
  - (b) Oxygen System in serviceable condition (AMM 35-21-00/501).
  - (c) Airplane must be in the ground mode (AMM 32-09-02/201).
- G. Procedure

s 915-255

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

EFFECTIVITY-

35-21-00



S 865-492

(2) Open this circuit breaker and install the DO-NOT-CLOSE tag:(a) P7 Overhead Circuit Breaker Panel

1) 7D4 OXYGEN VALVE & IND

s 015-437

(3) Open the access panels to the oxygen cylinders.

S 865-522

(4) If the oxygen cylinders are not installed, disconnect the low pressure lines at the flow control units and cap off the lines.

NOTE: Lack of pressure at the high pressure side of the flow control units during this test may cause the seal to unseat within the flow control units which can cause leakage (backflow) through the units.

S 865-439

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(5) If all the oxygen cylinders are installed, to make sure that the high pressure lines to the flow control units are pressurized, open and close the shutoff valve on each oxygen cylinder.

<u>NOTE</u>: The shutoff valve can be opened and closed by hand which is equivalent to 25 pound-inches.

S 035-494

- (6) Disconnect these electrical connectors to the continuous flow control unit (AMM 35-21-04/401):
  - (a) DM101 electrical connector from the M101 electropneumatic unit.
  - (b) DM123 electrical connector from the M123 electropneumatic unit.

s 485-050

ALL

(7) Connect the 0-30 psi pressure gauge, ME65B50263-1, and the hose to one test adapter.

NOTE: The test adapter is installed adjacent to the flow control units.

EFFECTIVITY-

35-21-00



s 485-051

(8) Connect the portable test cylinder, which is attached to a 15-psig pressure reducer, to the other test adapter.

NOTE: The test adapter is installed adjacent to the flow control units.

S 865-052

WARNING: OPEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER SLOWLY.
HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH
THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE
AIRPLANE AND EQUIPMENT.

(9) Open the shutoff valve on the portable test cylinder slowly, and pressurize the system to 15 psig.

NOTE: If the system pressure goes above 16 psig, the oxygen box doors may open.

s 865-053

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(10) Close the shutoff valve on the portable test cylinder once the system has become stable.

s 795-054

(11) Make sure the pressure decrease does not go above 3 psig over a 10-minute period on the 0-30 psi pressure gauge, ME65B50263-1.

s 795-055

(12) Do a check for leaks if the pressure goes above the permitted limit:

WARNING: OPEN THE SHUTOFF VALVES ON THE PORTABLE TEST CYLINDER SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(a) Open the shutoff valve on the portable test cylinder slowly, and pressurize the system to 15 psig.

NOTE: If the system pressure goes above 16 psig, the oxygen box doors may open.

EFFECTIVITY-

35-21-00

ALL



- Do a check of all the connections for leaks with the leak detection compound.
- (c) Rub the leak detection compound off with a clean cotton cloth immediately after the check.
- (d) Stop the leaks and do a test again until the system is satisfactory.

S 865-343

DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER CAUTION: MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(13) Close the shutoff valve on the portable test cylinder.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

s 085-056

(14) Disconnect the 0-30 psi pressure gauge, ME65B50263-1, and the hose from test adapter which is found adjacent to the flow control units.

s 085-057

(15) Slowly disconnect the portable test cylinder, which is attached to the 15-psig pressure reducer, from the other test adapter.

s 035-497

(16) Slowly loosen the B-nuts on the inlet and outlet ports of the continuous flow control units to bleed off any residual pressure in the passenger oxygen system.

s 435-498

- (17) Connect these electrical connectors to the continuous flow control unit (AMM 35-21-04/401):
  - (a) DM101 electrical connector from the M101 electropneumatic unit.
  - (b) DM123 electrical connector from the M123 electropneumatic unit.

s 435-496

ALL

(18) Tighten the B-nuts at the inlet and outlet ports of the continuous flow control units.

EFFECTIVITY-

35-21-00



S 865-440

WARNING: OPEN THE SHUTOFF VALVES ON THE OXYGEN CYLINDER SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (19) Open all the shutoff valves on the oxygen cylinders:
  - (a) Slowly turn the shutoff valve until it is fully open.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 865-493

- (20) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 795-500

(21) Do a check of the high pressure lines to the flow control units for leaks with the leak detection compound at the B-nut connections.

s 795-501

(22) Make sure that there are no bubbles detected to indicate a leak.
(a) If there is a leak detected, it must be repaired.

s 165-502

(23) Immediately rub off the leak detection compound with a clean cotton cloth when done.

s 415-323

(24) Close all the access panels to the passenger oxygen cylinders.

TASK 35-21-00-715-441

- Simulated Automatic and Alternate (Electrical) Functional System Test
  - A. Standard Tools and Equipment
    - (1) Barometer (to determine atmospheric pressure in inches of Hg)
    - (2) Caps and Plugs Package of Clean, Protective
    - (3) Cart Oxygen Bottle (oxygen quality air) or Cylinder - Portable Test, Scott Aviation, 225 Erie Street, Lancaster N.Y. (if applicable)

EFFECTIVITY-

35-21-00



- (4) Gauge Pressure, 0-150 psi
- (5) Gauge Pressure, 0-2000 psi with an accuracy of ± 2-1/2% graduations. The graduations must not be more that 100 psi apart, and a diameter of not less than 4 inches
- (6) Rod Metal, 1/4-inch diameter
- (7) Source Variable Vacuum, capable of maintaining 25-inch Hg vacuum with minimum flow of 1 cfm
- (8) Flexible Hose
- B. Consumable Materials
  - (1) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
  - (2) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
  - (3) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - (4) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
  - (5) G00019 Oxygen Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
  - (6) GO2311 Tape Masking Non Residue, 3M-226
  - (7) G01505 Copper Lockwire 0.020 inch diameter

# G01505

- C. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) AMM 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) AMM 35-00-00/201, Oxygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) AMM 35-21-08/401, Bleed Relief Valve
  - (10) 35-21-08/501, Bleed Relief Valve
  - (11) WDM 35-11-11, 35-11-12, 35-11-13
  - (12) SSM 35-11-01
- D. Access
  - (1) Location Zones

Forward Cargo Container Compartment, Aft Half Right
Upper Half Fuselage

E. Preconditions

s 865-487

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical Power (AMM 24-22-00/201).
  - (b) Oxygen System in serviceable condition (AMM 35-21-00/501).

EFFECTIVITY-

35-21-00

ALL



- (c) Airplane must be in the ground mode (AMM 32-09-02/201).
- (d) Integrated Display System (IDS) (AMM 31-61-00/501).
- (e) Passenger Address and Entertainment System (AMM 23-30-01/001).
- F. Prepare for the Simulated Automatic and Alternate (Electrical) Functional Test

s 915-290

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 865-085

(2) Supply the electrical power (AMM 24-22-00/201).

s 865-086

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 **OXYGEN RESET PWR**
    - 3) KLM COMBIS; 7H20 CARGO SMOKE DETECT MAIN DECK IND

s 865-087

Do the task: "Obtain Airplane Information Report" (AMM 31-61-00/201) to apply power to the EICAS (if necessary).

s 715-368

(5) Do the task: "Access Bite Test" (AMM 23-30-01/501) to turn on the ACESS system (if necessary).

s 015-442

(6) Open the access panels to the oxygen cylinders.

S 865-444

ALL

DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE CAUTION: THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(7) Close the shutoff valve on each oxygen cylinder.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

35-21-00



s 485-183

(8) If the oxygen bottle cart (or portable oxygen cylinder) is used to do the test, install as follows:

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Disconnect the fitting from the coupling assembly at point B (Fig. 501)
- (b) Connect the oxygen bottle cart output hose or the portable test cylinder to the coupling assembly at point B (Fig. 501).
- (c) Remove the plug at point C (Fig 501) and connect a pressure gage (0-2000 psig).
- (d) Connect the 0-150 psi pressure gauge and hose to one test port (pressure).

<u>NOTE</u>: The test port is found adjacent to the flow control unit.

S 865-094

(9) Use tape or other applicable means to loosely install the oxygen box doors in the up position.

NOTE: This permits the door to unlatch, but does not let the oxygen masks fall.

G. Do the Alternate (Electrical) Functional System Test

s 865-095

(1) Disconnect the electrical connector from the top flow control unit.

s 865-096

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(2) Slowly open the portable test (or oxygen bottle cart) cylinder shutoff valve (as applicable).

NOTE: The pressure gage (0-2000 psig) at point C should read 600 - 830 psig.

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

35-21-00

ALL



- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 865-133

(3) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.

s 735-134

- Do a visual check that these events take place:
  - (a) Initial pressure surge (within 20 seconds) is 35 to 110 psig as shown on the 0-150 psi pressure gage (installed at the test port (pressure)).
  - (b) All the oxygen box doors unlatch.
  - (c) PASS OXYGEN ON advisory message shows on the EICAS.
  - (d) Indicator on the center flow control unit moves to ON.
  - NO SMOKING and FASTEN SEAT BELTS signs come on.
  - (f) KLM COMBIS;

Horn sounds for 1 minute ±10 seconds on the P237 Smoke-Detection and the Oxygen-Decompression-Annunciation Panel found aft of the side cargo door.

NOTE: The HORN CUTOFF button on the P237 panel may be used to silence the horn before the automatic shutoff at 1 minute.

(q) KLM COMBIS;

DECOMP light come on in the P237 Smoke-Detection and Oxygen-Decompression-Annunciation Panel found aft of the side cargo door.

S 865-135

ALL

(5) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

EFFECTIVITY-

35-21-00



S 865-136

(6) Open 10 mask shutoff valves inside the oxygen boxes and bleed the system pressure down to zero (0) psig.

The pressure in the oxygen line has to drop below NOTE: 0.5 + - 0.5 psiq.

s 735-168

- (7) Do a visual check of the events that take occur:
  - (a) Pressure bleeds down to 24 psig as shown on the 0-150 psi pressure gage.
  - If the pressure does not bleed down do the task: "Bleed Relief Valve Test" (AMM 35-21-08/501).
  - (c) If it is necessary, do the task: Bleed Relief Valve Removal (AMM 35-21-08/401).
  - (d) PASS OXYGEN ON advisory EICAS message does not show on the EICAS display.
  - (e) Indicator on the center flow control unit moves away from ON.
  - (f) NO SMOKING and the FASTEN SEAT BELT signs extinguish.
  - (q) KLM COMBIS; DECOMP light goes off on the P237 Smoke-Detection and the Decompression Annunciation Panel (found aft of the side cargo door).

s 865-137

(8) Connect the electrical connector to the top flow control unit.

s 865-139

(9) Disconnect the DM101 electrical connector from the center flow control unit.

s 865-358

(10) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.

s 735-106

(11) Make sure the indicator on the top flow control unit moves to ON.

NOTE: This is the only thing that shows system operation.

s 735-107

ALL

(12) Make sure the PASS OXYGEN ON does not show on the EICAS.

EFFECTIVITY-

35-21-00



s 865-140

(13) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

s 735-110

- (14) Do a visual check to make sure the subsequent steps occur.
  - (a) Pressure bleeds down through the opened mask shutoff valves.
  - (b) Close the mask shutoff valves when system has completely bleed down.
  - (c) Indicator on the top flow control unit moves away from ON.

S 865-369

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(15) Close the shutoff valve on the oxygen bottle cart or portable oxygen cylinder.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

s 865-142

(16) Connect the DM101 electrical connector to the center flow control unit.

S 865-143

- (17) Do the task: "Oxygen Mask Installation" (AMM 35-21-06/401).
- H. Do the Simulated Automatic Functional System Test

S 215-249

ALL

(1) Make sure the oxygen boxes are kept in place by tape or other applicable means.

NOTE: If the actuation plunger is pushed and the oxygen boxes are not kept (taped) up in place the oxygen mask will drop. The mask then would have to be installed back again.

EFFECTIVITY-

35-21-00

18A.1

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s 485-120

(2) Connect a variable vacuum source to the test port on center flow control unit.

NOTE: The test port (vacuum) has a label on the unit.

S 865-121

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(3) Open the shutoff valve on the oxygen bottle cart or portable oxygen cylinder (as applicable).

NOTE: The (0-2000 psig) pressure gauge at point C should read 600 - 830 psig.

(a) Close the shutoff valve one-fourth of a turn.

S 865-122

(4) Slowly decrease the pressure on the variable vacuum source until the flow control unit(s) come on.

s 735-124

- (5) Do a visual check that these things occur:
  - (a) Flow control unit(s) comes on at a vacuum pressure of 18.11 to 17.30 inches Hg absolute (equivalent to 13,250 to 14,400 foot altitude).
  - (b) All the oxygen box doors unlatch.
  - (c) PASS OXYGEN ON advisory message shows on the EICAS.
  - (d) Indicator(s) on the flow control unit(s) move to ON.
  - (e) NO SMOKING and the FASTEN SEAT BELTS signs come on.

EFFECTIVITY-

35-21-00



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Horn sounds for one minute + or - 10 seconds on the P237 Smoke-Detection and the Oxygen-Decompression-Annunciation Panel (found aft of the side cargo door).

NOTE: The HORN CUTOFF button on the P237 panel may be used to turn off the horn before the automatic shutoff occurs after one minute.

# (g) KLM COMBIS;

DECOMP light comes on on the P237 Smoke-Detection and Oxygen-Decompression-Annunciation Panel (found aft of the side cargo door).

## S 865-126

(6) Open 10 mask shutoff valves in the oxygen boxes to bleed the system down.

NOTE: The pressure must be decreased to 10 psig before you do the remaining test.

### s 865-127

(7) Slowly decrease the pressure on the variable vacuum source to 9.72 inches Hg absolute (equivalent to 28,000-foot altitude).

### s 735-128

ALL

- (8) Make sure the pressure in the system is 25.10 to 35.17 psia.
  - (a) Calculate the absolute pressure (psia) as follows:
    - 1) Use a barometer to determine the field atmospheric pressure (in inches of mercury). \_\_\_\_\_\_ in HG.
    - 2) Divide field atmospheric pressure (above number) by 2.036.
      Result = \_\_\_\_\_\_\_\_.
    - 3) Add the result to the gage pressure (as shown on the 0-150 psi presssure gage). Result + pressure = \_\_\_\_\_ (total).

EFFECTIVITY-

35-21-00



4) The total is the absolute pressure (psia).

s 865-129

(9) Slowly decrease the pressure on the variable vacuum source to 5.54 inches Hg absolute (equivalent to 40,000-foot altitude).

s 795-360

(10) Make sure the pressure in the system is 44.0 to 48.0 psia.

s 085-130

(11) Remove the variable vacuum source(s) from the flow control unit(s).

s 085-143

(12) Remove the variable vacuum source from the flow control unit.

s 865-170

(13) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

s 865-134

(14) Permit the system to bleed down through the opened mask shutoff valves.

NOTE: The pressure in the oxygen line has to drop below 0.5 +/- 0.5 psig.

s 735-133

- (15) Do a visual check that these things occur:
  - (a) PASS OXYGEN ON advisory message does not show on the EICAS.
  - (b) Indicators on the flow control unit(s) move away from ON.
  - (c) NO SMOKING and the FASTEN SEAT BELT signs go off.
  - (d) KLM COMBIS;

DECOMP light goes off on the P237 Smoke-Detection and Oxygen-Decompression-Annunciation Panel (found aft of the side cargo door).

s 865-169

ALL

(16) Carefully push a 1/4-inch Allen wrench or metal rod through the access hole and lift the plunger on the latch.

EFFECTIVITY-

35-21-00



S 865-361

(17) Lift the oxygen box door until it engages the latch and remove the Allen wrench or the metal rod.

s 735-136

(18) Do the same steps for the top flow control unit that were used to test the center flow control unit.

NOTE: The only indication the system operates is the movement of the top flow control unit to ON.

s 735-138

(19) Do the same steps again to do a test on the lower flow control unit.

NOTE: The only indication the system operates is the movement of the lower flow control unit to ON.

S 865-363

DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE CAUTION: THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(20) Close the shutoff valve on the portable test cylinder (or oxygen bottle cart) or each oxygen cylinder (as applicable).

The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

s 415-328

ALL

(21) Do the task: "Oxygen Mask Installation" (AMM 35-21-06/401) if necessary.

EFFECTIVITY-

35-21-00



s 015-139

(22) Remove the tape or other devices used to hold the oxygen box doors in position.

S 085-168

(23) Disconnect the 0-150 psi pressure gage and the hose from test port (pressure).

NOTE: The test port is found adjacent to the flow control units.

s 085-352

(24) If oxygen bottle cart (or portable oxygen cylinder) was used, do the steps that follow:

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly disconnect the oxygen bottle cart hose (or portable oxygen cylinder) from the coupling assembly at point B (Fig. 501).
- (b) Connect the plug or fill line to the inlet of the coupling assembly (thermal compensator) at point B (Fig. 501).
- (c) Remove the (0-2000 psig) pressure gage at point C (Fig. 501).
- (d) Install a plug in supply manifold opening at point C (Fig. 501).

s 865-161

ALL

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (25) Open the shutoff valve on each oxygen cylinder.
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

35-21-00



- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 795-141

(26) Do a check of the test connections for leaks with the leak detection compound.

s 035-331

(27) Rub the leak detection compound off with a clean cotton cloth immediately after the check.

s 615-336

(28) If an oxygen cylinder was used to do the test, do the task: "Oxygen System Servicing" (AMM 12-15-08/301) if necessary.

S 415-149

(29) Close all the access panels to the oxygen cylinders.

S 865-162

(30) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

TASK 35-21-00-715-422

8. Oxygen System Oxygen Mask Drop Test

ALL

NOTE: Make sure there are sufficient persons to make sure oxygen (or nitrogen, or airflow as applicable) goes through all the masks. This needs to be done before all the supply (oxygen or other gases) is released.

- A. Equipment
  - (1) Caps and Plugs Package of Clean, Protective
  - (2) Cylinder Portable Test, 0-2000 psi (if applicable)
  - (3) Cart Oxygen Bottle (oxygen quality air) or Cylinder - Portable Test, Scott Aviation, 225 Erie Street, Lancaster N.Y. (if applicable)

NOTE: Three portable test cylinders are necessary for the Simulated Automatic Actuation, Alternate (Electrical) Actuation, and the Oxygen Mask Drop Tests.

(4) Gauge - Pressure, 0-2000 psi with an accuracy of ± 2-1/2% graduations. The graduations must not be more that 100 psi apart, and a diameter of not less than 4 inches

EFFECTIVITY-

35-21-00



- (5) Rod Metal, 1/4-inch diameter
- B. Consumable Materials
  - (1) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
  - (2) G00713 Cloth Clean, Dry, Lint-Free, White Cotton
  - (3) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
  - (4) G00669 Nitrogen per MIL-P-27401 (use with the portable test cylinder) (or)
  - (5) G00019 OXYGEN Chemical Gaseous per MIL-0-27210 Type 1 (use with the portable test cylinder)
  - (6) G01505 Copper Lockwire 0.020 inch diameter

# G01505

- C. References
  - (1) AMM 12-15-08/301, Oxygen
  - (2) AMM 23-30-01/001, Passenger Address and Entertainment ACESS
  - (3) AMM 24-22-00/201, Manual Control
  - (4) AMM 31-61-00/201, Integrated Display System
  - (5) AMM 33-21-00/001, Passenger Compartment Illumination Lights
  - (6) AMM 33-28-00/001, Upper Deck Passenger Compartment Lights
  - (7) AMM 35-00-00/201, Oxygen
  - (8) AMM 35-21-06/401, Oxygen Mask
  - (9) AMM 35-21-08/401, Bleed Relief Valve
  - (10) AMM 35-21-08/501, Bleed Relief Valve
  - (11) WDM 35-11-11, 35-11-12, 35-11-13
  - (12) SSM 35-11-01
- D. Access
  - (1) Location Zones
    - 124 Forward Cargo Container Compartment, Aft Half Right
    - 200 Upper Half Fuselage

EFFECTIVITY-

35-21-00



#### E. Preconditions

S 865-488

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Passenger Address and Entertainment System (AMM 23-30-01/001).
  - (b) Electrical Power (AMM 24-22-00/201).
  - (c) Integrated Display System (IDS) (AMM 31-61-00/501).
  - (d) Airplane must be in the ground mode (AMM 32-09-02/201).
  - (e) Oxygen System in serviceable condition (AMM 35-21-00/201).

## F. Procedure

s 915-288

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 865-171

(2) Supply the electrical power (AMM 24-22-00/201).

s 865-145

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXYGEN RESET PWR

S 865-146

(4) Do the task: "Obtain Airplane Information Report" (Ref 31-61-00/201) to apply power to the EICAS (if necessary).

s 015-089

(5) Open the access panels to the oxygen cylinders.

S 865-251

ALL

- (6) If the passenger oxygen cylinders are used to do the test, do the steps that follow:
  - NOTE: As many as three portable test cylinders are necessary for the Simulated Automatic Actuation, Alternate (Electrical) Actuation, and the Oxygen Mask Drop Tests.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (a) Close all except one shutoff valve on the oxygen cylinders.
- (b) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.
- (c) All the oxygen box doors drop.

EFFECTIVITY-

35-21-00



- Move the switch to RESET (switch automatically moves back to NORMAL).
- (e) Oxygen, nitrogen, or air flows through each mask.

NOTE: The mask pintel must be pulled from mask shutoff valve to start the oxygen flow (Fig 502).

- Make sure that the indicators on the flow control units move to (f)
- Open these circuit breakers and install the DO-NOT-CLOSE tags:
  - **OXYGEN VALVE & IND** 1) 7D4 7D3 OXYGEN RESET PWR
- (h) Open the remaining shutoff valves on the passenger oxygen cylinder.
  - 1) Slowly turn the shutoff valve until it is fully open.

The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- 2) Close the shutoff valve one-fourth of a turn.
- 3) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter coppper lockwire (AMM 20-11-28/401).

s 865-479

(7) If a oxygen cylinder was used to do the test, do the task: Oxygen System Servicing (AMM 12-15-08/301), if it is necessary.

s 485-190

ALL

If the oxygen bottle cart, or portable test cylinders is used to do the test, install as follows:

DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER CAUTION: MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

Close the shutoff valve on each oxygen cylinder.

The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

35-21-00



WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- Slowly remove the plug from the coupling assembly at point B (Fig. 501).
- (c) Connect the 0-30 psig pressure gauge to one test adapter on the continuous flow control unit (Fig. 501).
- Connect the portable oxygen cylinder (or oxygen bottle cart output hose) to the coupling assembly at point B (Fig. 501).
- Connect the oxygen bottle cart output hose to the other test adapter on the continuous flow control unit (Fig. 501).
- Open the shutoff valve on the oxygen bottle cart (or portable test cylinder).
- Remove the plug at point C (Fig 501) and connect a (0 2000 (g) psig) pressure gauge.
- (h) Connect the 0 - 150 psi pressure gauge and the hose to one test port (pressure).

NOTE: The test port is found adjacent to the flow control unit.

(i) Open the shutoff valve on the oxygen bottle cart (or portable test cylinder).

NOTE: The pressure gage at point C should read 600-830 PSIG.

(j) Pressurize the system to 20 psig.

S 865-149

(9) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.

s 735-150

ALL

- (10) Do a visual check these things occur:
  - (a) All the oxygen box doors drop.
  - (b) Oxygen, nitrogen, or air flows through each mask.

The mask pintel must be pulled from mask shutoff NOTE: valve to start the oxygen flow (Fig 502).

EFFECTIVITY-

35-21-00



(c) Indicators on the flow control units move to ON.

s 865-373

(11) Move the mask shutoff valve to the closed (up) position after verifying air flows through each mask.

s 865-172

(12) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET (switch automatically moves back to NORMAL).

s 875-374

(13) Open 10 mask shutoff valves inside the oxygen boxes and bleed the system presure down to zero (00.0) psig.

s 735-153

- (14) Do a visual check that these things occur:
  - (a) System bleeds down through the masks.
  - (b) Indicators on the flow control units move to ON.
  - (c) Close the shutoff valve on the oxygen bottle cart (or portable test cylinder).

S 865-154

(15) Do the task: "Oxygen Mask Installation" (AMM 35-21-06/401).

s 865-155

(16) Carefully push a 1/4-inch Allen wrench or metal rod through the access hole and lift the plunger on the latch.

s 015-365

(17) Lift the oxygen box door until it engages the latch and remove the Allen wrench or the metal rod.

s 085-195

ALL

(18) If the oxygen bottle cart (or portable test cylinder) was used to do the test, remove the test cylinder as follows:

WARNING: LOOSEN THE CONNECTIONS CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly disconnect the oxygen bottle cart (or portable test cylinder) output hose from the coupling assembly at point B (Fig 501).
- (b) Install a plug in the opening.
- (c) Remove the (0 2000 psig) pressure gauge at point C (Fig. 501) and install the plug.

EFFECTIVITY-

35-21-00



WARNING: OPEN THE SHUTOFF VALVES ON THE OXYGEN CYLINDERS SLOWLY. HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (d) Open the shutoff valves to each oxygen cylinder:
- (e) Slowly turn the shutoff valve until it is fully open. Do not apply more than 25 pound-inches or damage to the valve may occur.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (f) Close the shutoff valve one-fourth of a turn.
- (g) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

- (h) Do a check at test connections for leaks with leak detection compound.
- (i) Rub off the leak detection compound with a clean cotton cloth immediatley after the check.

s 415-427

(19) Close the access panels to the oxygen cylinders.

s 865-173

ALL

(20) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

35-21-00



# PASSENGER OXYGEN SYSTEM - INSPECTION/CHECK

## 1. General

- A. These tasks are included in this procedure:
  - (1) The 'Passenger Oxygen Cylinder' is referred to as the 'Oxygen Cylinder' in this procedure.
  - (2) Oxygen Cylinder Pressure and Leak Check.
  - (3) Oxygen Cylinder Security and Condition Check.
- B. The oxygen cylinders are installed in the forward cargo compartment aft of the cargo door (Fig. 601). Access is through the access panels to the oxygen cylinders.

TASK 35-21-00-706-011

- 2. Oxygen Cylinder Pressure and Leak Check (Fig. 601)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) GOO713 Cloth Clean, Dry, Lint-free, White, Cotton
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-00
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 916-006

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 016-022

(2) Open the access panels to the oxygen cylinders.

s 786-001

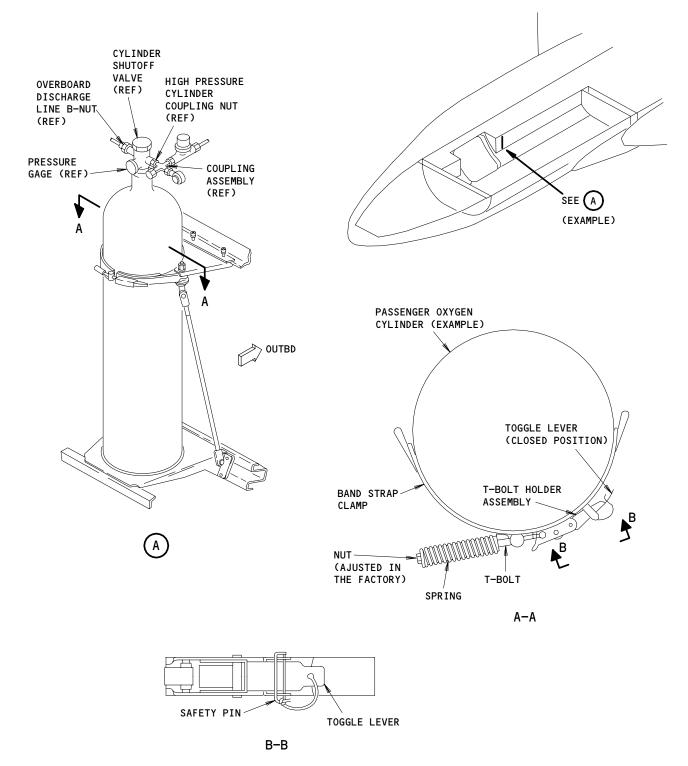
(3) Do a check of the pressures on the cylinder pressure gages. Make sure the average of the system pressure is above the minimum necessary for dispatch.

EFFECTIVITY-

35-21-00

01.1





# Passenger Oxygen Cylinder Inspection Figure 601

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s 796-027

(4) Do a check of the oxygen cylinders for leaks:

s 796-007

(5) Apply leak detection compound for the oxygen system to all fittings and connections.

NOTE: Bubbles show leaks which must be corrected.

s 096-010

- (6) Rub off the leak detection compound for the oxygen system immediately after the check.
  - (a) Tighten the connections to stop all leaks at the fittings.
  - (b) Send the oxygen cylinder to an approved overhaul facility if you cannot stop the leaks. Leaks are not permitted.
  - (c) Make sure it has not been more than three years since the oxygen cylinder had its last hydrostatic test.

NOTE: The last hydrostatic test date will be on a label near the top of the oxygen cylinder.

s 016-020

(7) Close all the access panels to the oxygen cylinders.

TASK 35-21-00-206-012

- 3. Oxygen Cylinder Security and Condition Check (Fig. 601)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-00
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

EFFECTIVITY-

35-21-00

ALL



#### C. Procedure

s 916-005

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 016-018

(2) Open the access panel to the oxygen cylinders.

s 216-017

- (3) Do a check of these components to make sure they are installed correctly:
  - (a) Make sure the pressure transducer is installed correctly on each coupling assembly.
  - (b) Make sure the pressure reducer is installed correctly on the each coupling assembly.
  - (c) Make sure the coupling assembly is installed correctly on each passenger oxygen cylinder.
  - (d) Make sure the medium pressure line and the overboard discharge line are installed correctly.
  - (e) Make sure the oxygen cylinder is corrrectly installed to the support brackets and straps.

s 216-016

(4) Make sure the oxygen cylinder is installed correctly:

s 216-015

- (5) Make sure the oxygen cylinder is in satisfactory condition:
  - (a) Make sure it has not been more than three years since the oxygen cylinder had its last hydrostatic test.

NOTE: The last hydrostatic test date will be on a label near the top of the oxygen cylinder.

S 416-015

ALL

(6) Close the access panels to the oxygen cylinders.

EFFECTIVITY-

35-21-00



# AUTOMATIC VENT VALVE - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the automatic vent valve.
  - (2) Installation of the automatic vent valve.
- B. The automatic vent valve is installed in these areas:
  - (1) ALL EXCEPT COMBIS;

Above the passenger entry door in the aft right side of the airplane. Access is through the removal of the attendant's service unit (AMM 25-23-04/401).

(2) ALL EXCEPT COMBIS;

Above the passenger entry door in the aft right side of the airplane. Access is through the removal of the attendant's service unit (AMM 25-23-04/401).

(3) COMBIS;

Above the lowered ceiling panel in zone A. Access is through the removal of the oxygen box in zone A (AMM 35-21-19/401, Oxygen Box).

## TASK 35-21-02-004-001

- 2. Automatic Vent Valve Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) AMM 25-23-04/401, Attendant's Service Unit
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-21-19/401, Oxygen Box (COMBIS)
    - (4) AIPC 35-21-00
  - C. Access
    - (1) Location Zone

272 Passenger Cabin Sta 2040 to Sta 2360 Right

212 Passenger Cabin Sta 134.75 to Sta 488 Left

#### D. Procedure

s 914-020

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 014-002

(2) Open the cylinder access panels.

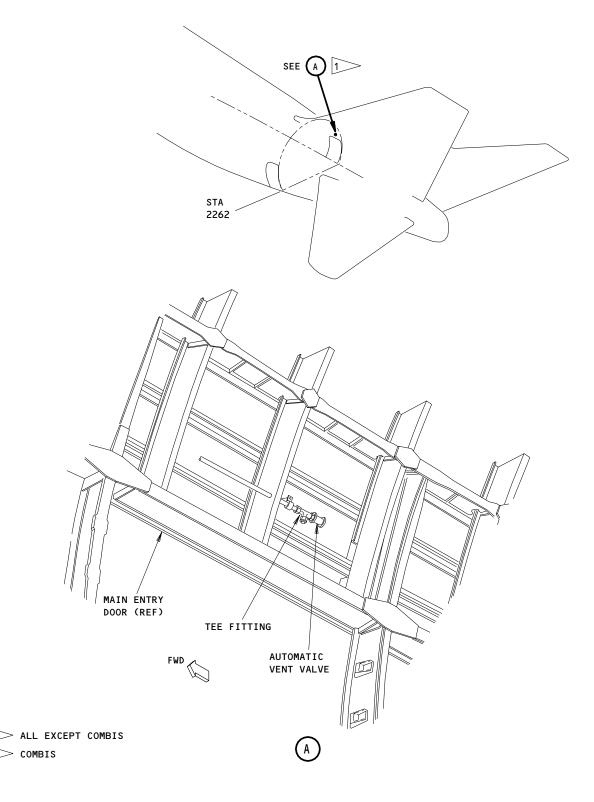
NOTE: The access panels are attached by the snaps and velcro tape.

EFFECTIVITY-

35-21-02

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Automatic Vent Valve Installation Figure 401 (Sheet 1)

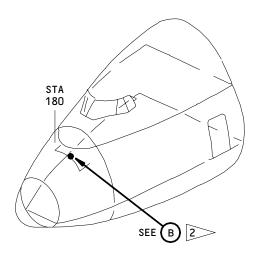
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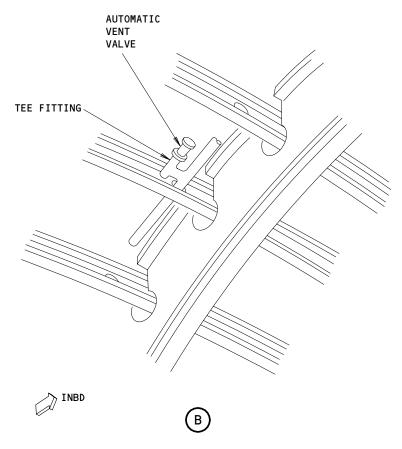
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Automatic Vent Valve Installation Figure 401 (Sheet 2)

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04

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s 864-021

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve to each passenger oxygen cylinder.

s 014-016

(4) ALL EXCEPT COMBIS;
Do the task: "Attendant's Service Unit Removal" (AMM 25-23-04/401)

to get access to the automatic vent valve above door 5 (right).

s 014-036

(5) COMBIS;

Do the task: "PSU Oxygen Box Removal" (AMM 35-21-19/401) to get access to the automatic vent valve in the zone A lowered ceiling.

s 034-005

(6) Cut the safety wire.

s 024-006

CAUTION: HOLD THE TEE FITTING WITH A WRENCH TO REMOVE THE AUTOMATIC VENT VALVE. THIS WILL PREVENT DAMAGE TO THE DISTRIBUTION TUBING.

(7) Remove the automatic vent valve from the tee fitting.

s 034-007

(8) Install the protective cap to the tee fitting to prevent contamination of the the system.

TASK 35-21-02-404-008

- 3. Automatic Vent Valve Installation (Fig. 401)
  - A. References
    - (1) AMM 25-23-04/401, Attendant's Service Unit (ALL EXCEPT COMBIS)
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-21-19/401, Oxygen Box (COMBIS)
    - (4) AIPC 35-21-00

ALL

EFFECTIVITY-

35-21-02



- B. Access
  - (1) Location Zone

272 Passenger Cabin Sta 2040 to Sta 2360 Right

212 Passenger Cabin Sta 134.75 to Sta 488 Left

C. Procedure

s 914-022

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-009

(2) Remove the protective cap from the tee fitting.

s 214-028

(3) Examine the threads on the tee fitting to make sure they are clean.

s 424-010

CAUTION: HOLD THE TEE FITTING WITH A WRENCH TO INSTALL THE AUTOMATIC VENT VALVE. THIS WILL PREVENT DAMAGE TO THE DISTRIBUTION TUBING.

(4) Install the automatic vent valve on the tee fitting.

s 434-011

(5) Install the safety wire.

s 414-017

(6) ALL EXCEPT COMBIS;

Do the task: "Attendant's Service Unit Installation" (AMM 35-21-19/401) to install attendant's service unit above the door 5 (right) entry door.

s 414-039

(7) COMBIS;

Do the task: "Oxygen Box Installation" (AMM 35-21-19/401) to install the Zone A, oxygen box in the left side lowered ceiling.

EFFECTIVITY-

35-21-02

ALL



S 864-024

OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDERS WARNING: SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (8) Open the shutoff valve on each passenger oxygen cylinders as follows:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 414-018

ALL

(9) Close the access panels to the passenger oxygen cylinders.

NOTE: The access panel is attached by snaps and velcro tape.

EFFECTIVITY-

35-21-02

01



### CONTINUOUS FLOW CONTROL UNIT - REMOVAL/INSTALLATION

### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the continuous flow control unit.
  - (2) Installation of the continuous flow control unit.
  - (3) Continuous Flow Control Unit Leak Test.
- B. The continuous flow control unit will be now called the flow control units.
- C. The flow control unit is installed in the right sidewall adjacent to the passenger oxygen cylinders (Fig. 401). Access to the flow control unit is through the access panel to the passenger oxygen cylinder.
- D. The flow control units includes two electropneumatic units and one pneumatic unit.

TASK 35-21-04-004-001

- 2. Continuous Flow Control Unit Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-04
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment Aft, Half Right

D. Procedure

s 914-024

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

- (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXY RESET PWR

s 014-003

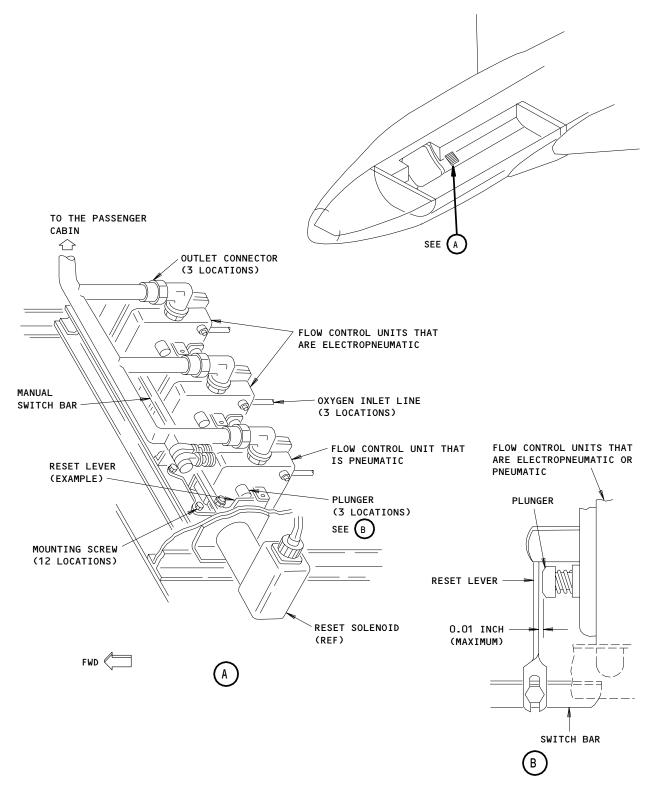
(3) Open the access panel to the passenger oxygen cylinders.

NOTE: The access panel is attached by snaps and velcro tape.

EFFECTIVITY-

35-21-04





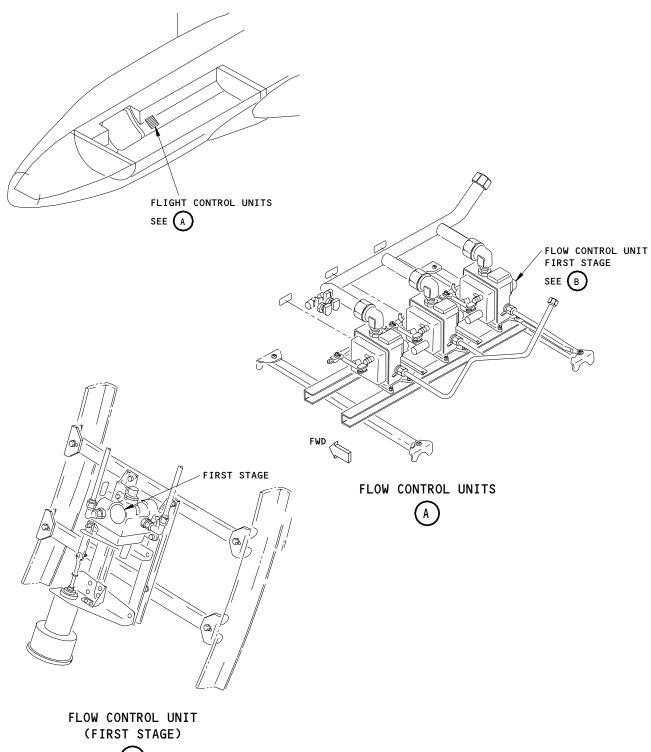
Continuous Flow Control Units Installation Figure 401

ALL

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Continuous Flow Control Units Installation Figure 402

ALL 01 Page 403 Oct 10/97



S 864-026

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER MORE THAN 25 INCH-POUNDS. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on each passenger oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 inch-pounds.

s 034-005

- (5) Disconnect the electrical connectors:
  - (a) DM101 electrical connector from the M101 electropneumatic unit.
  - (b) DM123 electrical connector from the M123 electropneumatic unit.

s 024-006

- (6) Remove the flow control unit:
  - (a) Slowly and continuously loosen the B-nut on the inlet port of flow control unit to decrease pressure.

NOTE: Do not loosen the union on the flow control unit.

- (b) Disconnect the B-nut from the flow control unit.
- (c) Disconnect the reset lever from the switch bar.
- (d) Disconnect the outlet connector on the flow control unit.
- (e) Remove the mounting fasteners and the bonding jumper from the upper flow control unit (if applicable).
- (f) Remove the flow control unit.

s 034-007

(7) Install the protective caps or plugs to the open lines, fittings or ports to prevent contamination of the system.

TASK 35-21-04-404-008

- 3. Continuous Flow Control Unit Installation (Fig. 401)
  - A. Consumable Materials
    - (1) GOOO91 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) GOO713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 20-11-14/701, Metal Surface Cleaning
    - (2) AMM 20-22-01/601, Electrical Grounding
    - (3) AMM 24-22-00/201, Manual Control
    - (4) AMM 35-00-00/201, Oxygen
    - (5) IPC 35-21-04
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

EFFECTIVITY-

35-21-04

ALL



### D. Procedure

s 914-027

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-009

(2) Remove the protective caps or plugs from the lines, fittings or ports.

s 214-030

(3) Examine the threads of the fittings to make sure they are clean.

s 144-010

(4) Do the task: "Hand Clean Metal Surfaces with Abrasives" (AMM 20-11-14/701) to fully clean the faying surfaces for the flow control unit.

s 424-011

- (5) Install the flow control unit:
  - (a) Set the flow control unit in position.
  - (b) Loosely connect the inlet and the outlet lines.
  - (c) Loosely connect the switch bar to the reset lever on the flow control unit.
  - (d) If you install the upper flow control unit, put the bonding jumper in position (if applicable).
  - (e) Attach the flow control unit and the bonding jumper (if applicable) loosely to the support channel with the mounting fasteners.
  - (f) Tighten the line connections.
  - (g) Tighten the mounting fasteners.
  - (h) Loosely attach the reset levers to the switch bar.

NOTE: Keep a 0.01-inch maximum clearance between each lever and its plunger per detail B, figure 401.

(i) Make sure the reset levers on all the flow control units are in same position relative to their plungers.

s 434-012

- (6) Connect the electrical connectors:
  - (a) DM101 electrical connector to the M101 electropneumatic unit.
  - (b) DM123 electrical connector to the M123 electropneumatic unit.

s 434-013

(7) Tighten the lockbolts to the switch bar.

s 864-014

(8) Supply electrical power (AMM 24-22-00/201).

EFFECTIVITY-

35-21-04

ALL



S 864-015

- (9) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXY RESET PWR

s 864-016

- (10) Reset the flow control units.
  - (a) Momentarily move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET.
  - (b) Make sure the indicators on flow control units have moved away from ON.

s 714-017

- (11) Do an operational test of the flow control units:
  - (a) Move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to ON.
  - (b) Make sure the indicator on each electropneumatic unit has moved to ON.
  - (c) Reset the electropneumatic units.
    - Momentarily move the PASS OXYGEN switch on the P5 Pilot's Overhead Panel to RESET.
    - 2) Make sure the indicators on the flow control units have moved away from ON.

s 764-031

(12) Make sure the resistance at the interfacing surfaces of the electrical bonding jumper is not more than 0.0225 ohms (BAC 5117).

s 734-054

(13) To test the low pressure line connections for leaks, do the "Oxygen System Low Pressure Leak Test" (AMM 35-21-00/501).

s 864-025

ALL

- WARNING: OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.
- (14) Open the shutoff valve on each passenger oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 inch-pounds.

(b) Close the shutoff valve one-fourth of a turn.

EFFECTIVITY-

35-21-04



(c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 794-019

(15) Do a check of the high pressure line connection for leaks with the leak detection compound for the oxygen system.

s 214-049

(16) Make sure all caps, covers or transit blanks have been removed from the flow control unit.

s 214-050

(17) Make specially sure that the sense ports are not covered.

s 144-028

(18) Immediately rub off the leak detection compound with a clean cotton cloth.

s 414-022

(19) Close the access panels to the passenger oxygen cylinders.

<u>NOTE</u>: The access panel to the passenger oxygen cylinders is attached by snaps and velcro tape.

s 864-021

(20) Remove electrical power if it is not necessary (AMM 24-22-00/201).

### TASK 35-21-04-704-048

- 4. <u>Continuous Flow Control Unit Leak Test</u> (Fig. 402)
  - A. Consumable Materials
    - (1) GO2311 Tape Masking Non Residue, 3M-266
    - (2) 0.125 OD Elastomer Tubing
  - B. References
    - (1) AMM 20-22-01/601, Electrical Grounding
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-21-00/501 Passenger Oxygen Operational/Leak Test
    - (4) AMM 35-21-04/401 Flow Control Unit
    - (5) IPC 35-21-04
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

EFFECTIVITY-

35-21-04

ALL



### D. Preconditions

S 844-051

- (1) The systems that follow must be installed and in serviceable condition to complete this test.
  - (a) Electrical Power (AMM 24-22-00/201).
  - (b) Passenger Oxygen system (AMM 35-21-00/501).
  - (c) Airplane in Ground Mode (AMM 32-09-02/201).
- E. Procedure

s 914-039

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 864-040

(2) Make sure the Flow Control Unit (FCU) is in the OFF mode and the Passenger Oxygen system is pressurized.

s 884-041

(3) Make sure the FCU is cooled to a temperature of approximately 32 degrees Fahrenheit or zero degrees Celsius.

NOTE: Pressure loss during flight or cold weather operation below freezing may cause the FCU to leak at the first stage diaphragm. To effectively test an installed FCU, It must be exposed to an ambient temperature of less than 32 degrees Fahrenheit or zero degrees Celsius.

s 484-042

(4) Install 0.125 outside diameter elastomer tubing in one of the two smaller holes of the first stage cap assembly (Fig. 401).

s 954-043

(5) Cover the two remaining holes of the first stage cap with tape.

S 484-044

(6) Place the other end of the elastomer tubing in a container of water.

s 774-045

(7) Look in the water container for bubbles, leakage shall not be more than 0.01 liter per minute.

s 794-046

(8) If the first stage cap leaks by more than 0.01 liter per minute, replace the flow control unit (AMM 35-21-04/401).

s 844-047

ALL

(9) Remove tubing and tape from the FCU.

EFFECTIVITY-

35-21-04



### UNITIZED VALVE ASSEMBLY - REMOVAL/INSTALLATION

### 1. General

- A. These tasks are included in this procedure:
  - (1) PSU unitized valve assembly removal
  - (2) PSU unitized valve assembly installation
  - (3) Passenger/attendant's unitized valve assembly removal
  - (4) Passenger/attendant's unitized valve assembly installation.
- B. The unitized valve assembly is installed on each oxygen box which is installed in each passenger service unit (PSU). The unitized valve assembly is also installed in the oxygen box in the zone A lowered ceiling panel area. You must open the oxygen box to get access to the unitized valve assembly.
- C. The unitized valve assembly for the passenger/attendant's is installed in each oxygen box at the the areas identified below. You must open the oxygen box to get access to to the unitized valve assembly.
  - (1) Lavatories
  - (2) Crew Rest
  - (3) Attendants' Stations
  - (4) KLM ALL; Galleys
  - (5) KLM ALL;
    Purser's Station

TASK 35-21-05-004-001

- 2. PSU Unitized Valve Assembly Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Rod Metal, 3/32-inch in diameter
    - (2) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) 35-00-00/201, 0xygen
    - (2) IPC 35-21-05
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-034

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 014-023

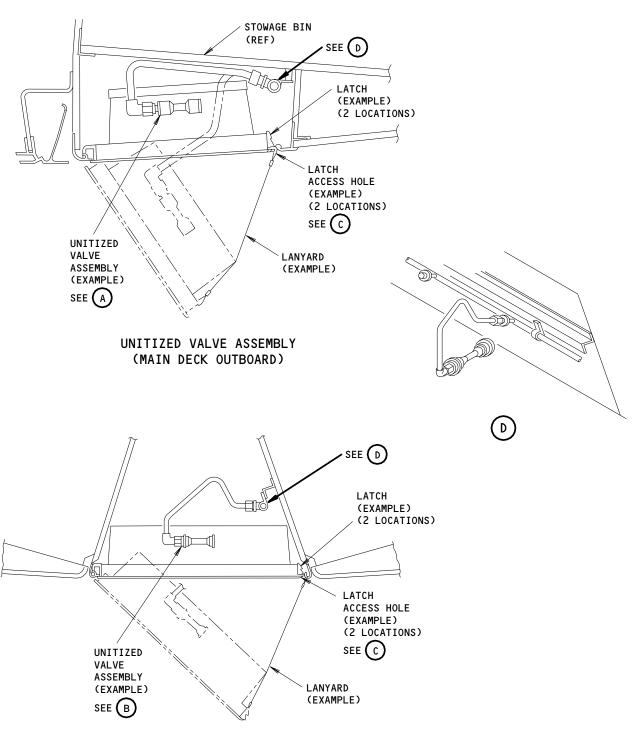
ALL

(2) Open access panels to the passenger oxygen cylinders which are attached by snaps and velcro tape.

EFFECTIVITY-

35-21-05





UNITIZED VALVE ASSEMBLY (MAIN DECK CENTER)

PSU Unitized Valve Assembly Installation Figure 401 (Sheet 1)

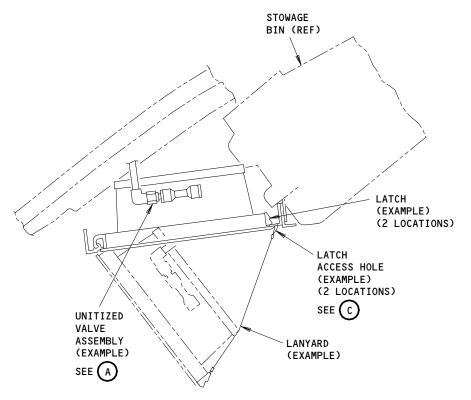
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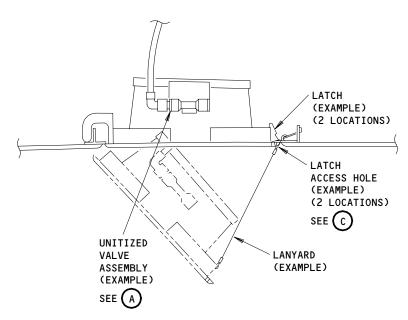
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# UNITIZED VALVE ASSEMBLY (UPPER DECK)



UNITIZED VALVE ASSEMBLY (ZONE A HYDROPLANE)

PSU Unitized Valve Assembly Installation Figure 401 (Sheet 2)

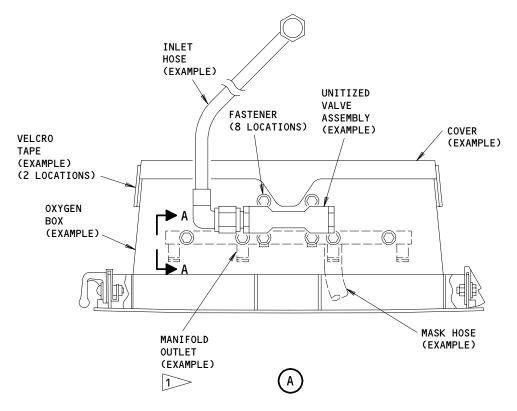
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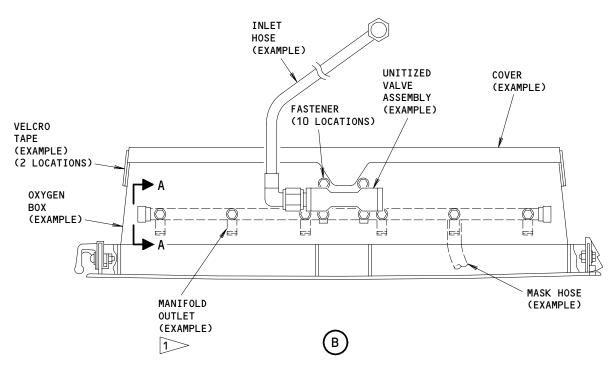
35-21-05

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PSU Unitized Valve Assembly Installation Figure 401 (Sheet 3)

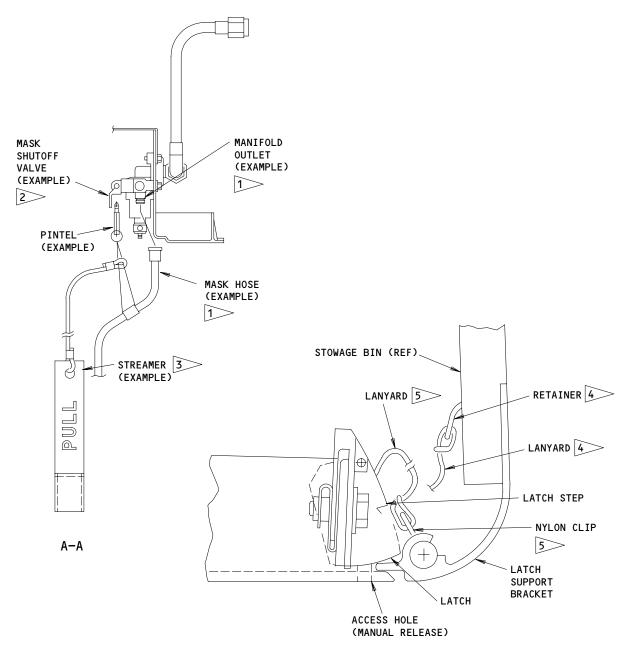
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THERE ARE CAPS ON SOME OUTLETS

MAKE SURE THE MASK SHUTOFF VALVE
IS IN THE OPEN (DOWN) POSITION
BEFORE YOU DO THE INSTALLATION.

3>> STREAMERS ARE NOT INSTALLED ON ALL MASKS

4 UPPER DECK PSUS
5 MAIN DECK PSUS

C)

PSU Unitized Valve Assembly Installation Figure 401 (Sheet 4)

35-21-05

01

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s 844-002

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each passenger oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

S 864-035

(4) Lower the oxygen box:

NOTE: Do not open the door to the oxygen maak. If the door opens the oxygen mask will drop down. This would require the oxygen mask to be installed back in the oxygen box which takes a long time to do.

- (a) Push a 3/32-inch diameter metal rod into each latch access hole and disengage the latches one at a time.
- (b) Carefully lower the oxygen box approximately 1/2-inch until it stops on the latch step.

<u>NOTE</u>: This will permit you to operate the latches with your fingers.

(c) Push the two latches into the oxygen box and carefully pull down to lower the oxygen box.

NOTE: The oxygen box will be stopped and held by the lanyard.

s 024-004

ALL

- (5) Remove the unitized valve assembly.
  - (a) Remove the inlet hose from the unitized valve assembly.
  - (b) Remove the cover on the oxygen box which is attached by velcro tapes.
  - (c) Remove the pintels from mask shutoff valves.
  - (d) Remove the mask hoses from the manifold outlets.

<u>NOTE</u>: Label each mask hose and manifold outlet for the installation.

- (e) Remove the fasteners connecting the unitized valve assembly to the oxygen box.
- (f) Remove the unitized valve assembly from the oxygen box.

EFFECTIVITY-

35-21-05

01



s 034-005

(6) Install the protective caps or plugs to open lines, fittings, or ports to prevent contamination of the system.

TASK 35-21-05-404-006

- 3. PSU Unitized Valve Assembly Inatallation (Fig. 401)
  - A. References
    - (1) 35-00-00/201, 0xygen
    - (2) 35-21-06/401, Passenger Oxygen Mask
    - (3) IPC 35-21-05
  - B. Access
    - (1) Location Zone

200 Upper Half Fuselage

C. Procedure

s 914-029

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 434-007

(2) Remove the protective caps or plugs from the lines, fittings, or ports.

s 214-036

(3) Examine the fittings (threads) to make sure they are clean.

s 424-009

WARNING: MAKE SURE ALL THE MASK SHUTOFF VALVES ARE IN THE OPENED (DOWN)
POSITION. IF THIS IS NOT DONE, OXYGEN WILL NOT GO TO THE
OXYGEN MASKS WHEN THE OXYGEN MASKS ARE OPERATED. THIS CAN
CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE OR
EQUIPMENT.

- (4) Install the unitized valve assembly.
  - (a) Put the unitized valve assembly in position on the oxygen box.
  - (b) Install the fasteners to connect the unitized valve assembly to the oxygen box.
  - (c) Install the mask hoses to the manifold outlets.

NOTE: Install the oxygen masks in the oxygen box if neccessary (Ref 35-21-06/401).

- (d) Install the pintels to the mask shutoff valves.
- (e) Install the cover on the oxygen box by the velcro tapes.
- (f) Install the inlet hose to the unitized valve assembly.

s 414-010

(5) Lift the oxygen box until the latches are engaged.

EFFECTIVITY-

35-21-05

ALL

01



s 864-011

WARNING: OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (6) Open the shutoff valve on each passenger oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 414-024

(7) Close the access panels to the passenger oxygen cylinders which are attached by snaps and velcro tape.

TASK 35-21-05-004-012

- 4. <u>Passenger/Attendant's Unitized Valve Assembly Removal</u> (Fig. 402)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean Protective
  - B. References
    - (1) 35-00-00/201, 0xygen
    - (2) 35-21-19/401, Oxygen Box
    - (3) IPC 35-21-05
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-030

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 014-037

ALL

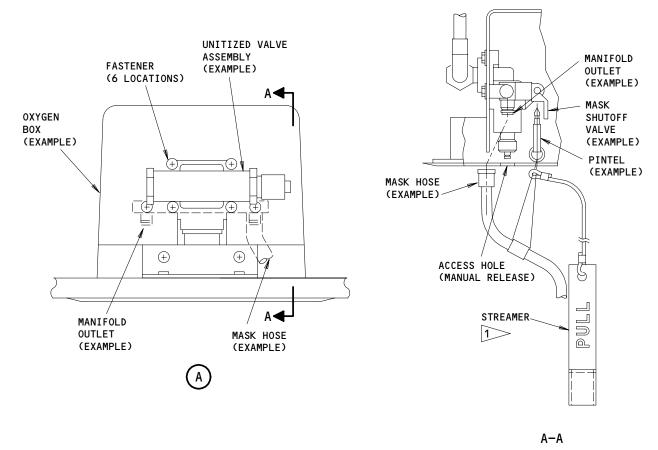
(2) Open the access panels to the passenger oxygen cylinders which are attached by snaps and velcro tape.

EFFECTIVITY-

35-21-05







1 STREAMERS ARE NOT INSTALLED ON ALL THE MASKS

Passenger/Attendant's Unitized Valve Assembly Installation (Example) Figure 402

ALL

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s 844-013

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each passenger oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 014-014

(4) Remove the oxygen box (Ref 35-21-19/401).

s 024-015

- (5) Remove the unitized valve assembly.
  - (a) Remove the pintels from the mask shutoff valves.
  - (b) Remove the mask hoses from the manifold outlets.
  - (c) Remove the fasteners connecting the unitized valve assembly to the oxygen box.
  - (d) Remove the unitized valve assembly from the oxygen box.

s 034-016

(6) Install the protective caps or plugs to open lines, fittings, or ports to prevent contamination of the system.

TASK 35-21-05-404-017

- 5. Passenger/Attendant's Unitized Valve Assembly Installation (Fig. 402)
  - A. References
    - (1) 35-00-00/201, 0xygen
    - (2) 35-21-19/401, Oxygen Box
    - (3) IPC 35-21-05
  - B. Access
    - (1) Location Zone

200 Upper Half Fuselage

C. Procedure

s 914-031

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 434-018

(2) Remove the protective caps or plugs from lines, fittings or ports.

EFFECTIVITY-

35-21-05

ALL



s 214-033

(3) Examine the fitting (threads) to make sure they are clean.

s 424-020

WARNING: MAKE SURE ALL THE MASK SHUTOFF VALVES ARE IN THE OPENED (DOWN)
POSITION. IF THIS IS NOT DONE, OXYGEN WILL NOT GO THE OXYGEN
MASKS WHEN THE OXYGEN MASKS ARE OPERATED. THIS CAN CAUSE
INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE OR EQUIPMENT.

- (4) Install the unitized valve assembly.
  - (a) Put the unitized valve assembly in position on the oxygen box.
  - (b) Install the fasteners to connect the unitized valve assembly to the oxygen box.
  - (c) Install the mask hoses to the manifold outlets.
  - (d) Install the pintels to the mask shutoff valves.

s 414-021

(5) Install the oxygen box (Ref 35-21-19/401).

S 864-022

WARNING: OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (6) Open the shutoff valve on each passenger oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 414-026

(7) Close the access panels to the passenger oxygen cylinders which are attached by snaps and velcro tape.

EFFECTIVITY-

35-21-05

ALL



### OXYGEN MASK - REMOVAL/INSTALLATION

## 1. General

- A. These tasks are included in this procedure:
  - (1) Oxygen Mask Removal
  - (2) Oxygen Mask Installation
- B. The oxygen mask for the passenger service units (PSUs) are installed in each PSU oxygen box. Access to the oxygen mask is through the oxygen box door.

TASK 35-21-06-004-001

- 2. PSU Oxygen Mask Removal (Fig. 401, 403, 404)
  - A. General
    - (1) This procedure is for one oxygen mask. Do the steps again for more oxygen masks.
  - B. Standard Tools and Equipment
    - (1) Rod Metal, 3/32 inch in diameter
    - (2) Caps or Plugs Package of Clean Protective
  - C. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-21-06/601, Passenger Oxygen Mask
    - (3) AIPC 35-21-06
  - D. Access
    - (1) Location Zone

200 Upper Half Fuselage

### E. Procedure

s 914-026

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 014-021

ALL

- (2) Get access to the oxygen mask:
  - (a) Push a 3/32 inch diameter rod into the access hole on the door.

EFFECTIVITY-

35-21-06

01A



- (b) Operate the latch and release the door to the oxygen masks.
- (c) Carefully lower the oxygen box approximately 1/2 inch until it stops on the latch step.

<u>NOTE</u>: This will permit you to operate the latches with your fingers.

(d) Push the two latches into the oxygen box and carefully pull down to lower the oxygen box.

NOTE: The oxygen box will fall until it is held in position by the lanyard.

s 024-003

- (3) Remove the oxygen mask:
  - (a) Disconnect the oxygen mask from the manifold outlet on the unitized valve assembly.
  - (b) Remove the pintel from the mask shutoff valve on the unitized valve assembly.
  - (c) Remove the oxygen mask from the oxygen box.

<u>NOTE</u>: Identify with a label each mask hose, warning streamer and the manifold outlet for the re-installation.

s 044-033

(4) Install the protective caps or plugs to the mask hose and manifold outlet to prevent contamination of the system.

s 104-005

ALL

(5) Make sure the oxygen mask are clean (Ref 35-21-06/701) before the oxygen mask are put back in the oxygen box.

TASK 35-21-06-404-006

- 3. <u>PSU Oxygen Mask Installation</u> (Fig. 401, 403, 404)
  - A. General
    - (1) This procedure is for one oxygen mask. Do the steps again for more oxygen masks.

EFFECTIVITY-

35-21-06



- B. Standard Tools and Equipment
  - (1) Metal Rod 3/32 inch in diameter
- C. References
  - (1) AMM 35-00-00/201, Oxygen
  - (2) AIPC 35-21-06
- D. Access
  - (1) Location Zone

200 Upper Half Fuselage

### E. Procedure

s 914-023

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-007

(2) Remove the protective caps and plugs from the mask hose and manifold outlets.

S 864-008

- (3) Put the oxygen mask in the oxygen box (Fig. 403).
  - (a) Wind the tubes down into a coil and attach the tubes with three nylon clips to the dimensions in View A, Fig. 403.
  - (b) Put the oxygen mask on a clean, flat surface.
  - (c) Put the elastic headstrap on the reservoir bag (View B, Fig. 403).
  - (d) Fold the reservoir bag two times from one end of the reservoir bag to the other end (View C, Fig. 403).

<u>NOTE</u>: The headstrap will now be in the folds on the reservoir bag.

- (e) Turn the facepiece on its other side.
- (f) Fold the reservoir bag end to end two times and make sure it is set on top of the facepiece (View D, Fig. 403).
- (g) Put the coil of tubes on top of the reservoir bag.
- (h) Wind the remaining tubes down in a counterclockwise direction and put them on top of the other coil of tubes.

NOTE: Use the same diameter to wind the tubes and make sure the final assembly is similar to view D, Fig. 403.

- (i) On the oxygen mask with warning streamers do as follows.
  - 1) Make sure the warning streamer is attached to the pintel lanyard (Fig. 401).

EFFECTIVITY-

35-21-06

ALL



- 2) Wind the lanyard on the warning streamer into a coil (View E, Fig. 403):
  - a) Wind the lanyard into figure eight loops.

<u>NOTE</u>: Start the loops four to six inches from the loop end of the lanyard. Use your index finger and your small finger of one hand to make the loop.

- b) Fold the streamer placard in half and put it against the figure eight loop.
- c) Make sure the warning streamer position agrees with View D, Fig. 403.
- d) Make sure the streamer coil in the mask facepiece is as shown in View D, Fig. 403.

s 424-009

- (4) ALL PSUS EXCEPT 4-MASK OUTBOARD PSUS; Install the oxygen masks (Fig. 404)
  - (a) Make sure that the velcro tape securely fastens the transparent dust cover.

WARNING: MAKE SURE THE HOSE AND THE PINTEL ON EACH OXYGEN MASK ARE CONNECTED TO THE SAME VALVE. THE SHUT OFF VALVES MUST BE IN THE OFF POSITION ONCE THE PINTEL IS INSERTED. IF THESE COMPONENTS ARE NOT INSTALLED OR SET IN THE CORRECT POSITION, OXYGEN FLOW THROUGH THE MASKS COULD STOP. THIS CAN CAUSE INJURIES TO PEOPLE WHO USE THE MASKS.

- (b) Connect the mask hose fitting to the manifold's outlet quick disconnect fitting.
- (c) With the oxygen box door open, put the oxygen mask with the folded reservoir bag and mask coils behind the mask cup in the oxygen box.

<u>NOTE</u>: Make sure that all mask coils are stacked against the transparent dust cover.

(d) Make sure the open end of the mask cups are toward the open door.

<u>NOTE</u>: Put the center oxygen mask in the oxygen box before the other oxygen masks.

EFFECTIVITY-

ALL

35-21-06



- (e) Put the coiled streamers and lanyards inside each of their respective mask cups, if installed.
- (f) Make sure the shutoff valve is open (toggle lever is aimed towards dust cover).
- (g) Put each pintel tightly into the hole until its valve unit detent engages.
- Make sure the masks and mask coils are unrestrained before you close the door.
- (i) Lift the oxygen box door closed until it engages the latch.
- (j) Carefully push a 3/32-inch diameter tool through the access hole to operate the latch plunger to securely lock the door.

### s 424-038

- Install the oxygen masks (4-MASK OUTBOARD PSUs) (Fig. 404, Sheet 7).
  - Make sure that the velcro tape securely fastens the transparent dust cover.
  - With the oxygen box door open, connect the mask hose fitting to the manifold's outlet quick disconnect fitting.

MAKE SURE THE HOSE AND THE PINTEL ON EACH OXYGEN MASK **WARNING:** ARE CONNECTED TO THE SAME VALVE. THE SHUT OFF VALVES MUST BE IN THE OFF POSITION ONCE THE PINTEL IS INSERTED. IF THESE COMPONENTS ARE NOT INSTALLED OR SET IN THE CORRECT POSITION, OXYGEN FLOW THROUGH THE MASKS COULD STOP. THIS CAN CAUSE INJURIES TO PEOPLE WHO USE THE MASKS.

- (c) Make sure the shutoff valve is open (toggle lever is aimed towards dust cover).
- Put each pintel tightly into the hole until its valve unit detent engages.
- Stack all the coils against the back of the box (side opposite of manifold).

NOTE: Stack both sets of coils (two left and two right sets) with one another.

EFFECTIVITY-

ALL

35-21-06



- (f) Put the center oxygen masks with reservoir bags folded behind them on top of the coils.
- (g) Fold over the cup edges of the two center masks (inner mask cups).
- (h) Put the outer oxygen masks with reservoir bags folded behind them on top of the center masks slightly offset.

NOTE: Make sure the coils are not entangled with each other or with structure (NO COILS SHOULD BE OVER THE MANIFOLD). The open end of the two outer mask cups must be open towards the door.

- (i) Put two of the the coiled streamers and lanyards inside each of the nearest outer mask cups, if installed.
- (j) Make sure the masks and mask coils are unrestrained before you close the door.

NOTE: Due to the tight area, there could be a pre-load from the inside of box against the door when you close the door. A small amount of pre-load is acceptable.

- (k) Lift the oxygen box door closed until it engages the latch.
- (1) Carefully push a 3/32-inch diameter tool through the access hole to operate the latch plunger and securely lock the door.

TASK 35-21-06-004-011

- 4. Passenger/Attendants Oxygen Mask Removal (Fig. 402, 403, 405)
  - A. General
    - (1) The procedure is for one oxygen mask. Do the steps again for more oxygen masks if it is necessary.
  - B. Standard Tools and Equipment
    - (1) Rod Metal, 3/32 inch diameter
    - (2) Caps and Plugs Package of Clean, Protective
  - C. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-21-06/701, Oxygen Mask
    - (3) AIPC 35-21-06
  - D. Access
    - (1) Location Zone

200 Upper Half Fuselage

E. Procedure

s 914-039

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 014-040

- (2) Get access to the oxygen masks (Fig. 402).
  - (a) Push a 3/32 inch diameter rod into the access hole and actuate the latch to release the oxygen mask door.

EFFECTIVITY-

35-21-06

ALL



(b) Permit the oxygen masks to fall free.

s 024-041

- (3) Remove the oxygen mask.
  - (a) Disconnect the oxygen mask from manifold outlet.
  - (b) Remove the pintel from the the mask shutoff valve.
  - (c) Remove the oxygen mask from the oxygen box.

s 034-042

(4) Install the protective caps and plugs to the mask hose and the manifold outlet to prevent contamination of the system.

s 104-043

(5) Clean the oxygen mask before the oxygen masks are installed back into the oxygen box (AMM 35-21-06/701).

TASK 35-21-06-404-044

- 5. <u>Passenger/Attendant's Oxygen Mask Installation</u> (Fig. 402, 403, 405)
  - A. General
    - (1) The procedure is for one oxygen mask, do the steps again for all additional oxygen masks as necessary.
  - B. Standard Tools and Equipment
    - (1) Rod Metal, 1/4-inch diameter
  - C. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AIPC 35-21-06
  - D. Access
    - (1) Location Zone

200 Upper Half Fuselage

E. Procedure

s 914-047

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-049

(2) Remove the protective caps and plugs from the mask hose and the manifold outlets.

s 864-050

ALL

- (3) Install the oxygen mask (Figure 403).
  - (a) Wind the tubes in a coil and attach with two nylon clips (refer to the dimensions in Figure 403, Detail A).
  - (b) Put the oxygen mask on a clean flat surface.
  - (c) Put the elastic headstrap on the reservoir bag (Figure 403, View C).

EFFECTIVITY-

35-21-06



(d) Fold the reservoir bag two times and end to end (Figure 403, View C)

<u>NOTE</u>: The elastic headstrap will be in folds on the reservoir bag.

- (e) Fold the reservoir bag and headstrap two times to make sure it sets on the top of the facepiece (Figure 403, View D).
- (f) Put the coil of tubes on top of the reservoir bag.
- (g) Wind the remaining tubes down in a counterclockwise direction and put it on top of the other coil of tubes.

NOTE: Use the same diameter to wind the tubes and make sure the final assembly is similar to Figure 403, View D.

- (h) On the oxygen masks with warning streamers do as follows.
  - 1) Make sure the warning streamer is attached to the pintel lanyard (Fig. 401).
  - 2) Wind the warning streamer lanyard into a coil (Fig. 401, View D).
    - a) Wind the lanyard into figure eight loops.

NOTE: Start the loops four to six inches from the loop end of the lanyard. Use your index finger and your small finger of one hand to make the loop.

- b) Fold the streamer placard in half and put it up against the figure eight loop.
- Make sure the warning streamer position agrees with Figure 403, View D.
- d) Put the streamer coils in the mask facepiece as shown in Fig. 403, View D.

s 024-051

- (4) Install the oxygen mask (Figure 404).
  - (a) With the oxygen box door open, connect the mask hose fitting to the manifold's outlet quick disconnect fitting.

WARNING: MAKE SURE THE HOSE AND THE PINTEL ON EACH OXYGEN MASK ARE CONNECTED TO THE SAME VALVE. THE SHUT OFF VALVES MUST BE IN THE OFF POSITION ONCE THE PINTEL IS INSERTED. IF THESE COMPONENTS ARE NOT INSTALLED OR SET IN THE CORRECT POSITION, OXYGEN FLOW THROUGH THE MASKS COULD STOP. THIS CAN CAUSE INJURIES TO PEOPLE WHO USE THE MASKS.

- (b) Make sure the shutoff valve is open (toggle lever is aimed towards dust cover).
- (c) Put each pintel tightly into the hole on the manifold until the detent on the valve unit engages.

EFFECTIVITY-

35-21-06

ALL



WARNING: MAKE SURE THE MASK AND TUBES CAN NOT CATCH ON SOMETHING.

IF THE OXYGEN MASK DO NOT DROP A PERSON COULD POSSIBLY NOT

GET OXYGEN WHICH CAN CAUSE INJURY TO PERSONS.

(d) Make sure the masks and tubes cannot catch on something.

s 414-052

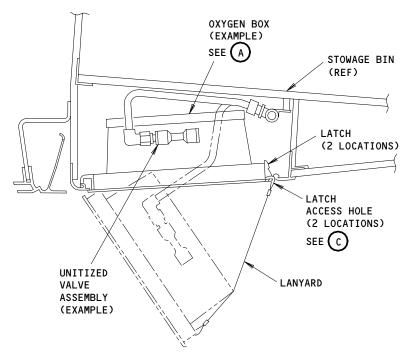
- (5) Close the oxygen box door to close the access to the oxygen mask.
  - (a) Lift the oxygen box door near the oxygen box.
  - (b) Carefully push a 3/32 inch Allen wrench or metal rod through the access hole and lift the plunger on the latch.
  - (c) Lift the oxygen box door until it engages the latch and remove the Allen wrench or the metal rod.

EFFECTIVITY-

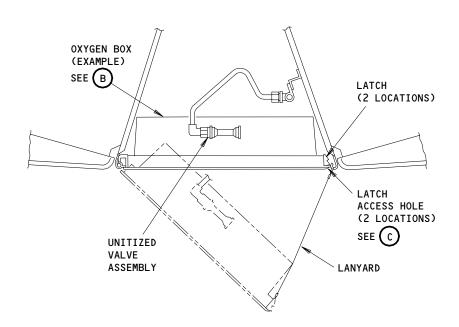
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OXYGEN BOX (MAIN DECK OUTBOARD)



OXYGEN BOX (MAIN DECK CENTER)

PSU Oxygen Box Installation Figure 401 (Sheet 1)

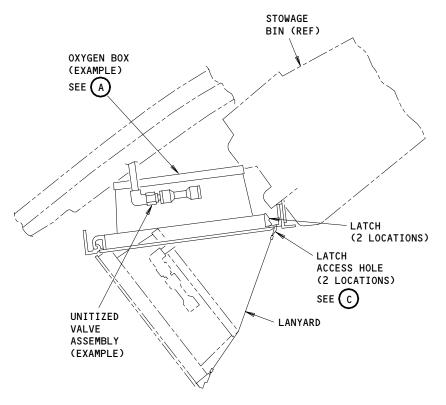
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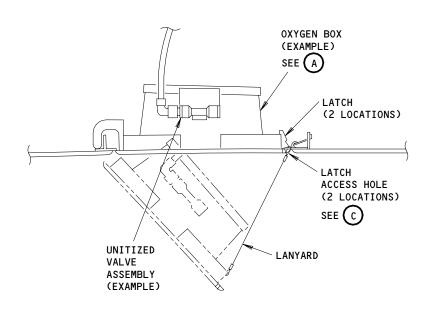
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OXYGEN BOX (UPPER DECK)



OXYGEN BOX (ZONE A HYDROPLANE)

PSU Oxygen Box Installation Figure 401 (Sheet 2)

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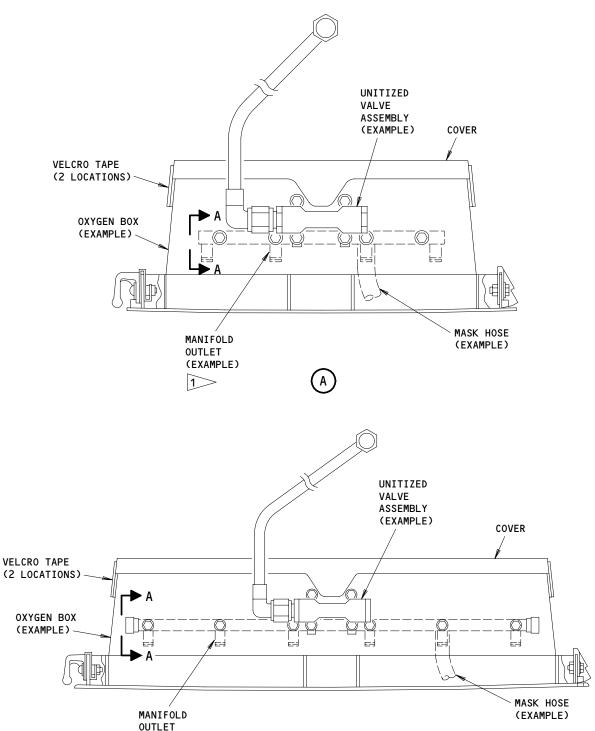
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PSU Oxygen Box Installation Figure 401 (Sheet 3)

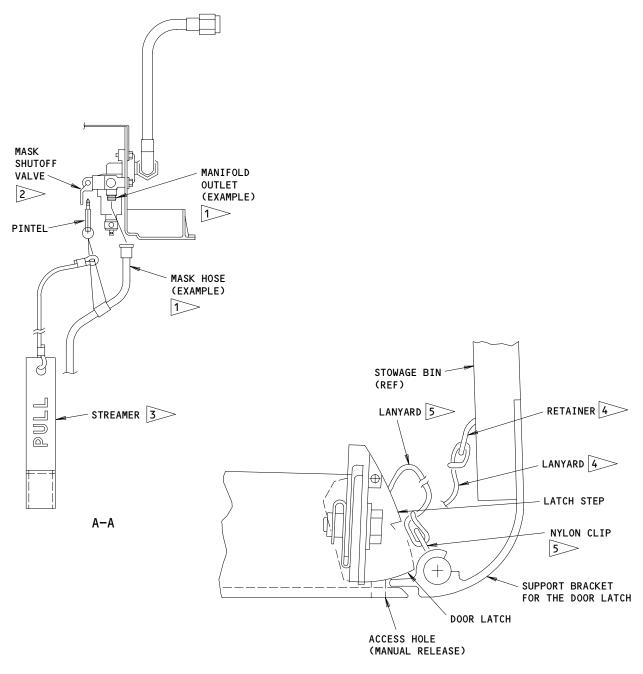
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(EXAMPLE)





1 SOME OUTLETS CAN BE CAPPED

MAKE SURE THE MASK SHUTOFF VALVE IS IN THE OPENED (DOWN) POSITION BEFORE YOU DO THE INSTALLATION.

3 STREAMERS NOT INSTALLED ON ALL MASKS

4 UPPER DECK PSUS
5 MAIN DECK PSUS

591002

PSU Oxygen Box Installation Figure 401 (Sheet 4)

LATCH SIDE

C

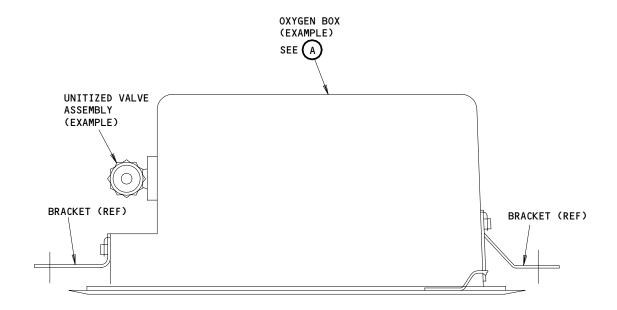
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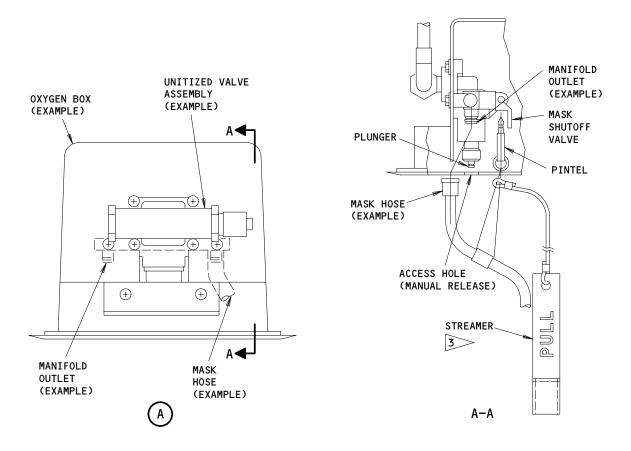
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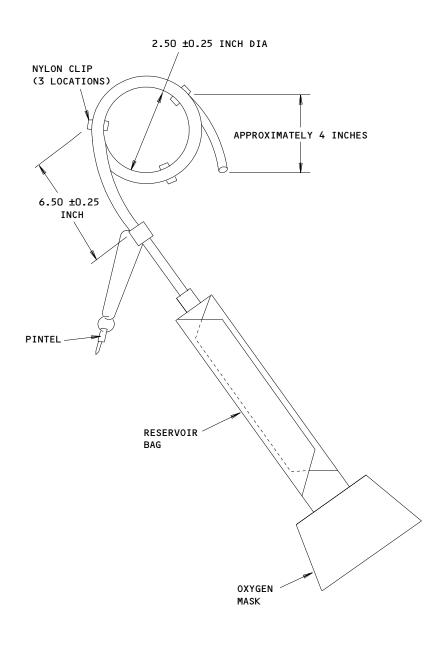
Passenger/Attendant's Oxygen Box Installation (Example) Figure 402

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# Oxygen Mask Repacking Procedure Figure 403 (Sheet 1)

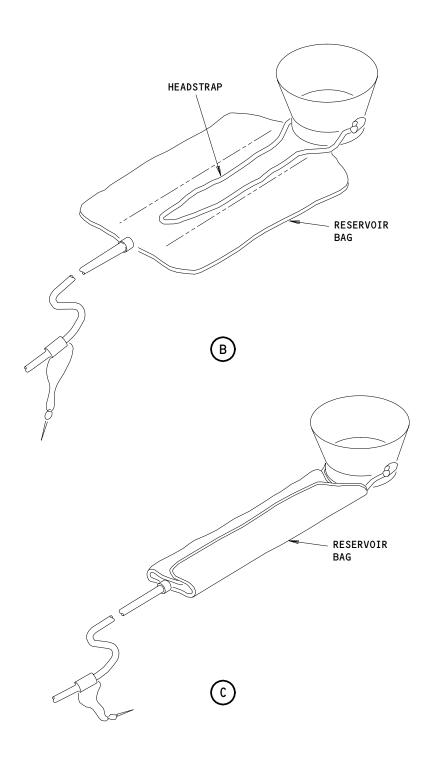
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Oxygen Mask Repacking Procedure Figure 403 (Sheet 2)

ALL

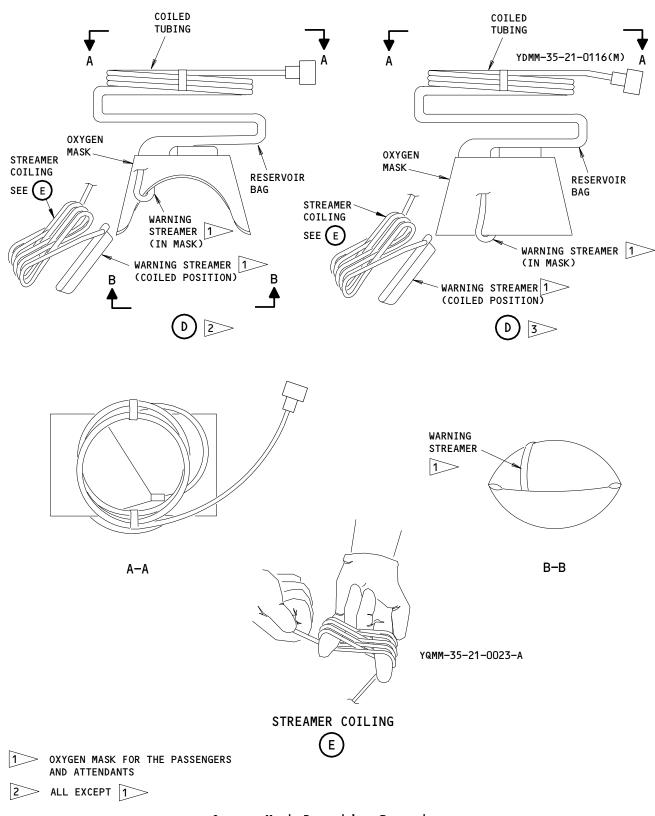
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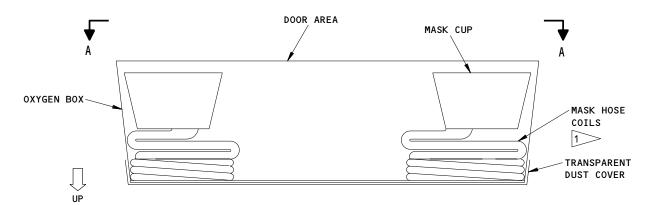


Oxygen Mask Repacking Procedure Figure 403 (Sheet 3)

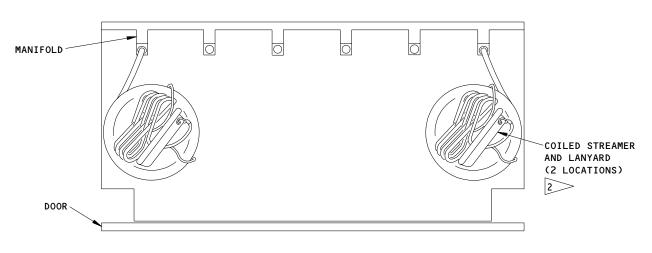
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CENTER PSUS FOR THE MAIN DECK
(2 MASK CONFIGURATION)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION)
A-A

1 ALL MASK HOSE COILS ARE TO BE STACKED AGAINST TRANSPARENT DUST COVER

2 IF INSTALLED

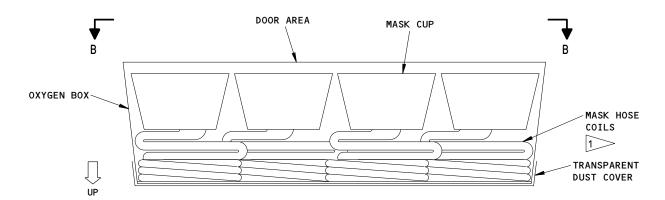
PSU Oxygen Mask Arrangement Figure 404 (Sheet 1)

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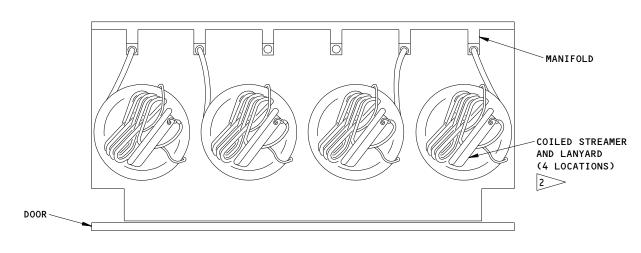
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CENTER PSUS FOR THE MAIN DECK
(4 MASK CONFIGURATION)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION)
B-B

PSU Oxygen Mask Arrangement Figure 404 (Sheet 2)

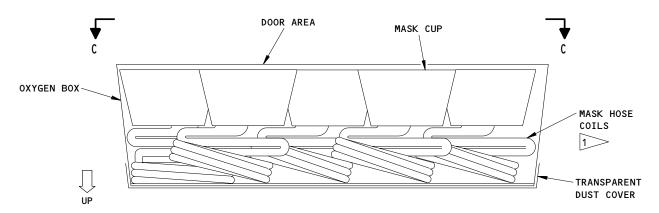
EFFECTIVITY

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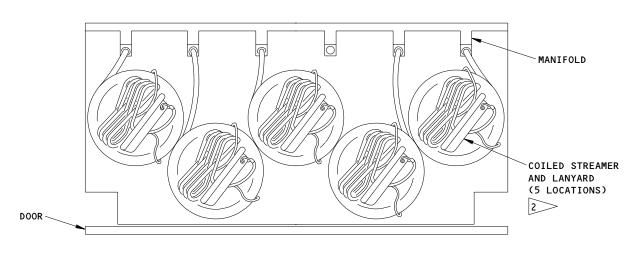
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CENTER PSUS FOR THE MAIN DECK (5 MASK CONFIGURATION) (OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION) C-C

PSU Oxygen Mask Arrangement Figure 404 (Sheet 3)

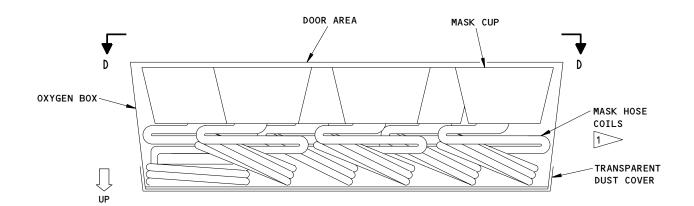
EFFECTIVITY ALL

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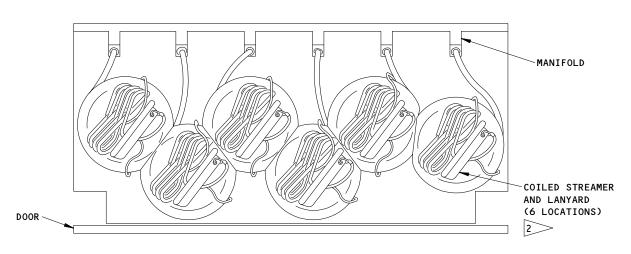
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CENTER PSUS FOR THE MAIN DECK
(6 MASK CONFIGURATION)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION)
D-D

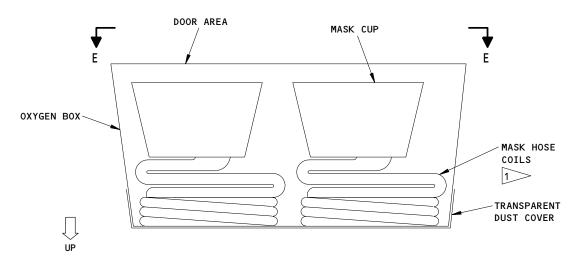
PSU Oxygen Mask Arrangement Figure 404 (Sheet 4)

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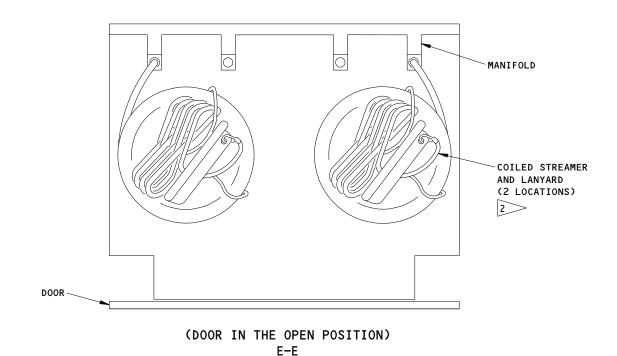
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OUTBOARD PSUS
(2 MASK CONFIGURATION)
(OXYGEN BOX IS UPSIDE DOWN)

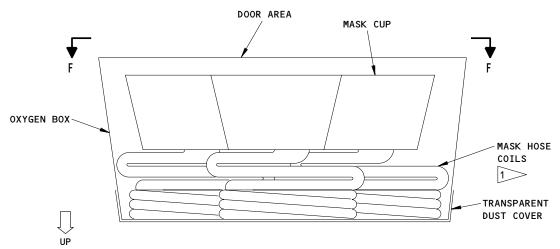


PSU Oxygen Mask Arrangement Figure 404 (Sheet 5)

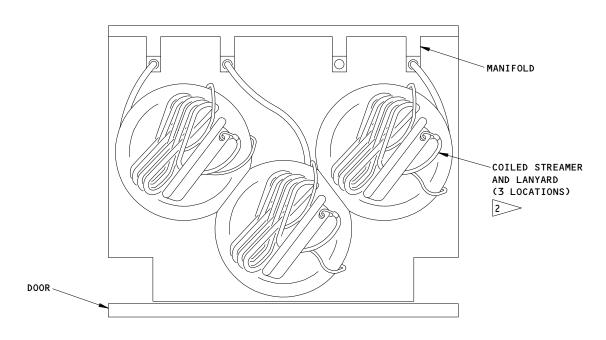
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OUTBOARD PSUS
(3 MASK CONFIGURATION)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION) F-F

PSU Oxygen Mask Arrangement Figure 404 (Sheet 6)

EFFECTIVITY

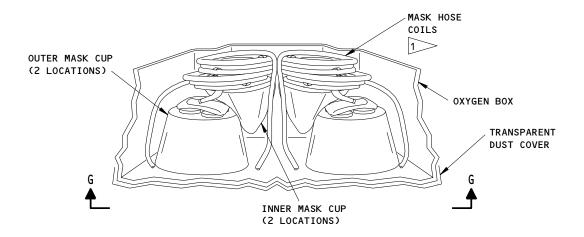
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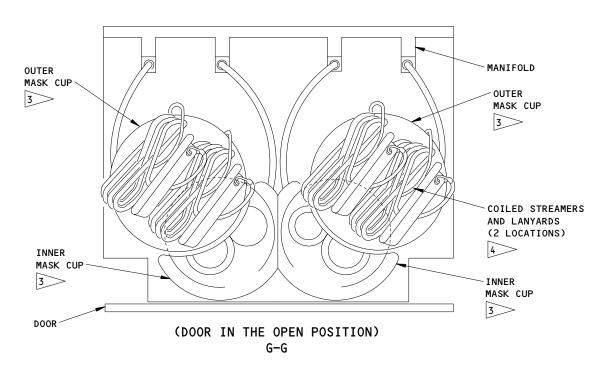
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# OUTBOARD PSUs (4 MASK CONFIGURATION)



> DUE TO THE TIGHT AREA, PUT THE OUTER MASK CUPS PARTIALLY ON TOP OF THE INNER MASK CUPS (NOT SIDE-BY-SIDE) TO IMPROVE MASK DEPLOYMENT

4 PUT TWO OF THE COILED STREAMERS AND LANYARDS INSIDE EACH OF THE NEAREST OUTER CUPS, IF INSTALLED

> PSU Oxygen Mask Arrangement Figure 404 (Sheet 7)

EFFECTIVITY-ALL

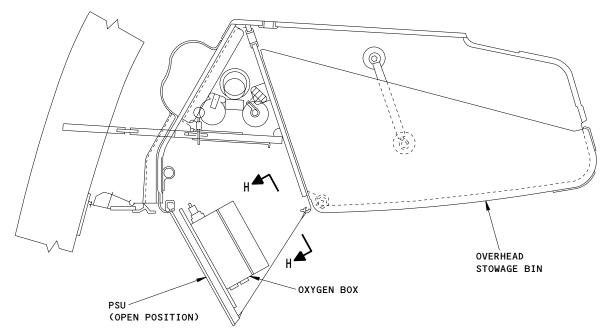
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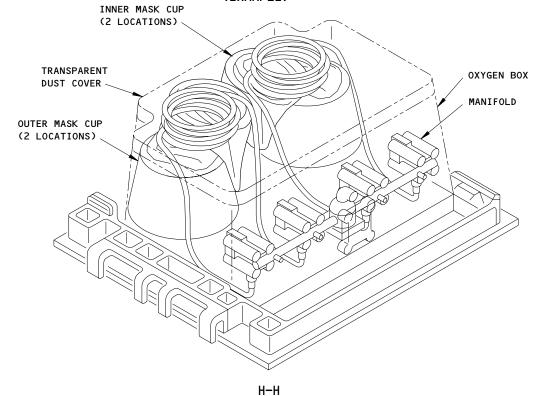
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# OUTBOARD PSU (OPEN POSITION FOR INSPECTION) (EXAMPLE)



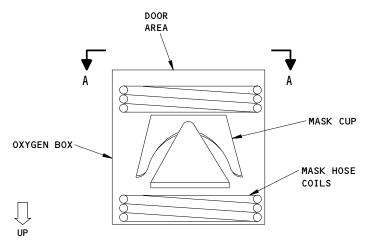
PSU Oxygen Mask Arrangement Figure 404 (Sheet 8)

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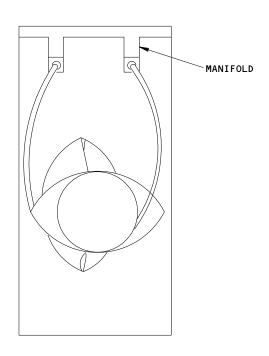
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2 MASK CONFIGURATION
(FACE-TO-FACE WITHOUT SPRING PLATE)
(OXYGEN BOX IS UPSIDE DOWN)



A-A

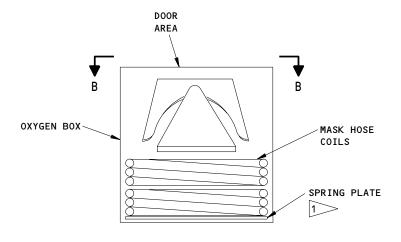
Passenger/Attendant Oxygen Mask Arrangement Figure 405 (Sheet 1)

 35-21-06

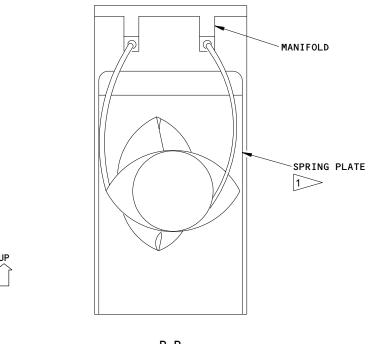
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2 MASK CONFIGURATION (FACE-TO-FACE WITH SPRING PLATE)



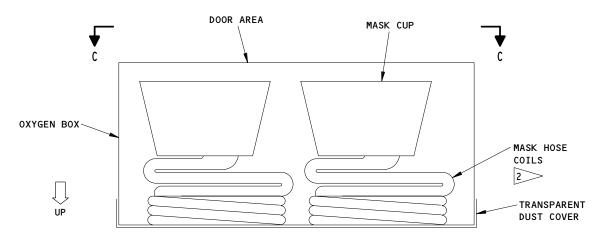
B-B

> PUT THE MASKS AT THE CENTER OF SPRING PLATE

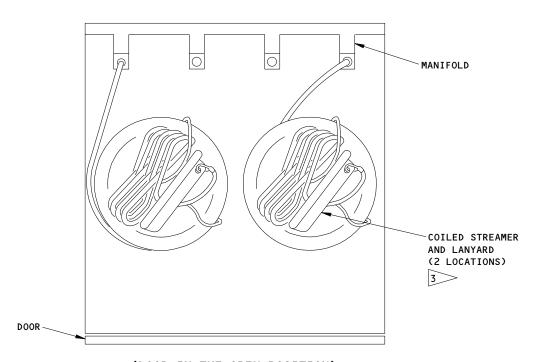
# Passenger/Attendant Oxygen Mask Arrangement Figure 405 (Sheet 2)

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2 MASK CONFIGURATION
(SIDE-BY-SIDE)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION) C-C

2 ALL MASK COILS ARE TO BE STACKED AGAINST TRANSPARENT DUST COVER

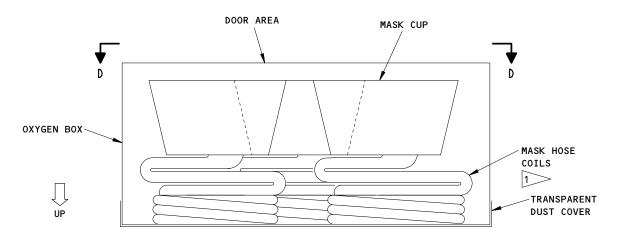
3 IF INSTALLED

# Passenger/Attendant Oxygen Mask Arrangement Figure 405 (Sheet 3)

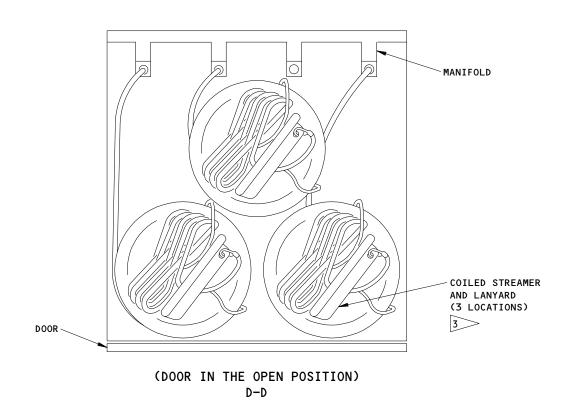
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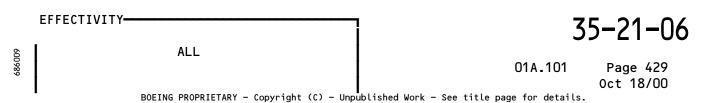




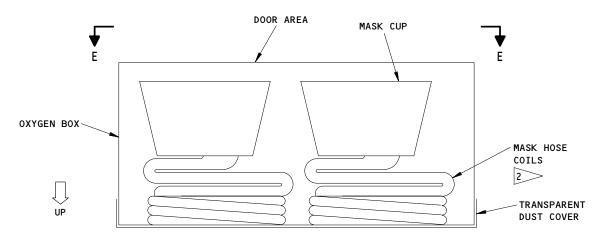
3 MASK CONFIGURATION (OXYGEN BOX IS UPSIDE DOWN)



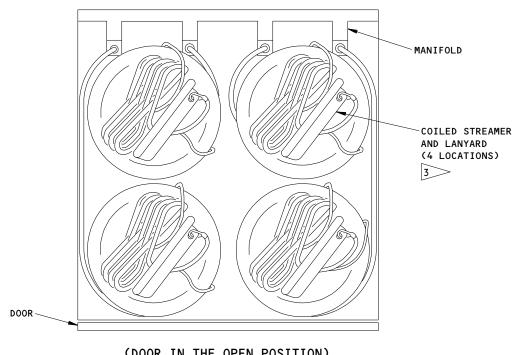
Passenger/Attendant Oxygen Mask Arrangement Figure 405 (Sheet 4)







4 MASK CONFIGURATION
(SIDE-BY-SIDE)
(OXYGEN BOX IS UPSIDE DOWN)



(DOOR IN THE OPEN POSITION) E-E

Passenger/Attendant Oxygen Mask Arrangement Figure 405 (Sheet 5)

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## OXYGEN MASK - INSPECTION/CHECK

#### 1. General

- A. This procedure includes these tasks:
  - (1) Oxygen Mask Facepiece Inspection Check
  - (2) Oxygen Mask Hose Inspection Check.
- B. The mask for the PSU's (passenger service units) is installed in each PSU oxygen box. You must lower the mask door on the oxygen box to get access to the mask.

TASK 35-21-06-206-014

- 2. Oxygen Mask Facepiece Inspection Check
  - A. Standard Tools and Equipment
    - (1) Rod Metal, 1/4-inch diameter
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-21-06/401, Oxygen Mask
    - (3) IPC 35-21-06
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 916-012

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 016-002

- (2) Manually open the mask door on the oxygen box.
  - (a) Push a 1/4-inch diameter rod into the access hole on the door.
  - (b) Operate the latch and release the mask door.
  - (c) Permit the masks to fall free.

s 216-003

- (3) Make sure the facepiece of the oxygen mask is clean and is in satisfactory condition.
  - (a) Examine the facepiece for the contamination (dirt, grease, oil, or any other unwanted material).

EFFECTIVITY-

35-21-06



- Examine the valves for contamination (dirt, grease, oil, or any other unwanted material).
- Examine the facepiece for damage or deterioration.
  - 1) Make sure it does not have cuts.
  - 2) Make sure it is soft and flexible.
  - 3) Examine it for deterioration.
  - 4) Make sure it does not have more damage.
- Do a check of the headstrap.
  - 1) Make sure it retracts and extends satisfactorily.
  - 2) Make sure it is correctly installed to the facepiece.

s 026-004

(4) Replace the mask if it is not in satisfactory condition (AMM 35-21-06/401).

S 866-005

(5) Put the mask back in the oxygen box (AMM 35-21-06/401).

TASK 35-21-06-206-015

# Oxygen Mask Hose and Bag Inspection Check

- Standard Tools and Equipment
  - (1) Rod Metal, 1/4-inch diameter
- References
  - (1) AMM 35-00-00/201, Oxygen
  - (2) AMM 35-21-06/401, Oxygen Mask
  - (3) IPC 35-21-06
- Access
  - (1) Location Zone

200 Upper Half Fuselage

Procedure D.

s 916-013

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 016-007

ALL

- Manually open the mask door on the oxygen box.
  - (a) Push a 1/4-inch diameter metal rod into the access hole on the door.
  - Operate the latch and release the mask door. (b)
  - (c) Permit the masks to fall free.

EFFECTIVITY-

35-21-06

01.1



s 216-008

(3) Visually examine the oxygen mask hoses and oxygen mask bags for the presence of liquid contaminants on the inside and outside surfaces.

A liquid substance on the inside and outside surfaces may indicate the diffusion of phthalate plasticizer, a substance used to make the material flexible over the normal operating temperature range. The plasticizer can diffuse out of the material due to aging, thermal effects, humidity, and contact with other plastics.

(a) If there are liquid contaminants found, replace the oxygen mask assembly (AMM 35-21-06/401).

s 216-017

- Do a check for the general condition of the mask hoses and bags.
  - (a) Make sure it is soft and flexible.
  - (b) Examine the color on the mask hoses and bags.

NOTE: A change in the color of the mask bags and hoses occurs with time. It is not necessary to replace the oxygen mask assembly, if there is only a color change with no other conditions such as cracks, brittleness or the presence of oily liquid contaminants.

s 906-009

Replace the oxygen mask assembly, if it is not in satisfactory condition (AMM 35-21-06/401).

s 226-010

- (6) Pull on each hose at a point near the bayonet fitting with a force of 18 pounds.
  - (a) If the hose comes off when you pull on it, replace the mask (AMM 35-21-06/401).

s 866-011

ALL

(7) Put the masks back in the oxygen box (AMM 35-21-06/401).

EFFECTIVITY-

35-21-06



#### OXYGEN MASK - CLEANING/PAINTING

#### 1. General

- A. This procedure includes this task:
  - (1) Oxygen Mask Cleaning.
- B. The mask for PSU's (passenger service units) is installed in each PSU oxygen box. Access to the oxygen box is through the oxygen box door.

TASK 35-21-06-107-001

- 2. Passenger Oxygen Mask Cleaning
  - A. Consumable Materials
    - (1) GO2197 Disinfectant West Wescodyne
    - (2) GO2198 Disinfectant Airwick Antimicrobial Topical Gel
    - (3) GO2199 Disinfectant Lysol Brand Disinfectant (EPA Registration number 675-19)
    - (4) G00034 Cheesecloth Absorbent (commercially available)
    - (5) G00713 Cloth Clean, White, Lintfree Cotton
    - (6) GO2122 Applicator Sponge (optional) (commercially available)
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-21-06/401, Oxygen Mask
    - (3) AIPC 35-21-06
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 917-005

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 027-008

(2) Remove the oxygen mask (AMM 35-21-06/401).

s 117-007

- (3) Clean the facepiece on the oxygen mask.
  - (a) Mix the disinfectant with warm water to make a solution.

NOTE: Follow the instructions on the manufactures label.

EFFECTIVITY-

35-21-06

ALL

01.1



- (b) Apply the solution to the facepiece with a cheesecloth or sponge.
- (c) Flush the facepiece with clear, warm water.
- (d) Permit the facepiece to dry in air or dry it with a cloth.

s 427-009

(4) Put the oxygen mask back in the oxygen box (AMM 35-21-06/401).

 35-21-06

01

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## BLEED RELIEF VALVE - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in the procedure:
  - (1) Removal of the bleed relief valve
  - (2) Installation of the bleed relief valve
- B. Bleed relief valves are installed in the distribution lines for the low oxygen pressure. Access and location to the bleed relief valves are shown in Figure 401 and 402.

TASK 35-21-08-004-001

- 2. <u>Bleed Relief Valve Removal</u> (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) AMM 25-22-01/401, Main Passenger Cabin Ceiling Access Panels
    - (2) AMM 25-23-04/401, Attendants's Service Unit
    - (3) AMM 25-28-23/201, Upper Deck Stowage Bins
    - (4) AMM 35-00-00/201, Oxygen
    - (5) IPC 35-20-51
    - (6) IPC 35-21-00
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-017

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 014-022

(2) Open the access panels to the oxygen cylinders.

S 864-024

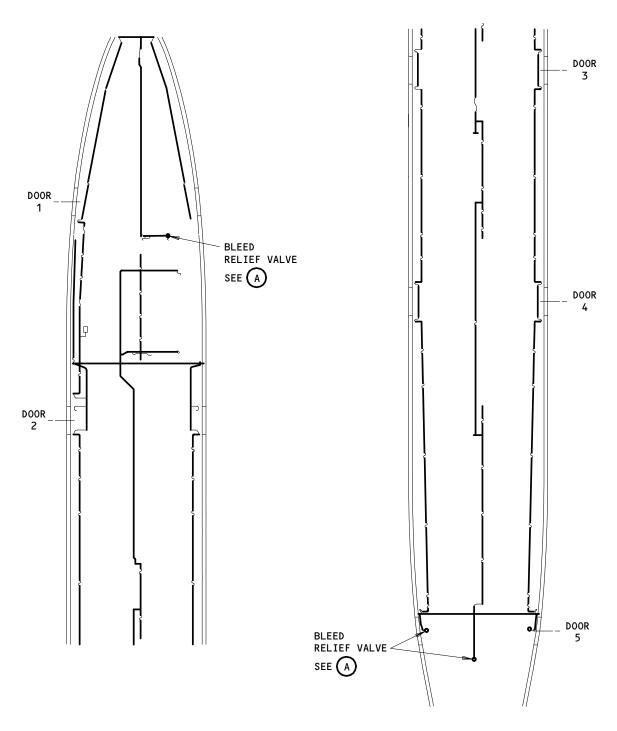
ALL

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

EFFECTIVITY-

35-21-08





MAIN DECK

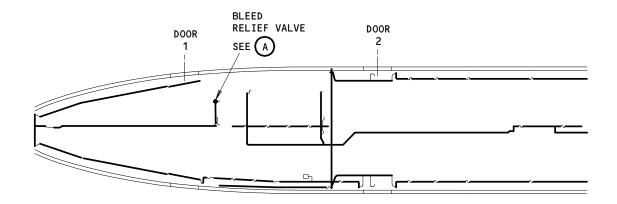
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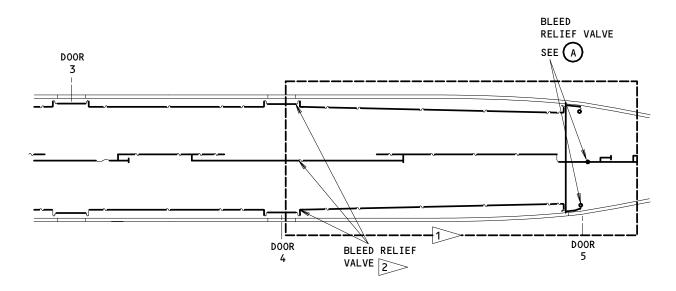
35-21-08

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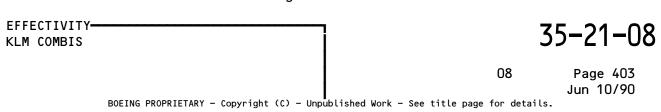




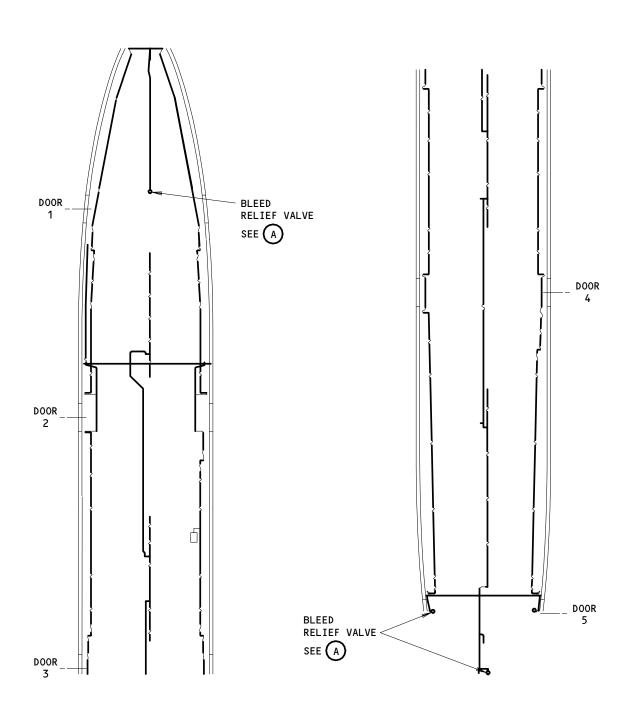
MAIN DECK

1 ALL-PASSENGER CONFIGURATION
2 6-PALLET CONFIGURATION

Bleed Relief Valve Installation Figure 401 (Sheet 2)







MAIN DECK

# Bleed Relief Valve Installation Figure 401 (Sheet 3)

EFFECTIVITY-UTA ALL

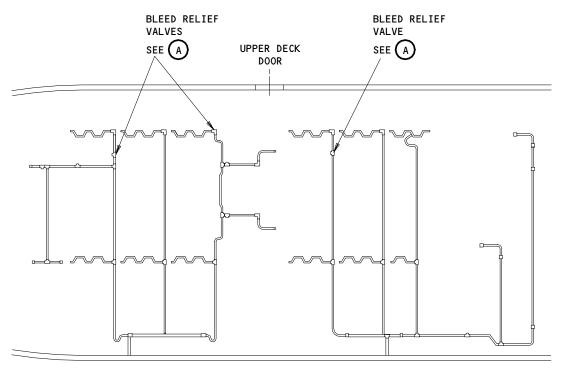
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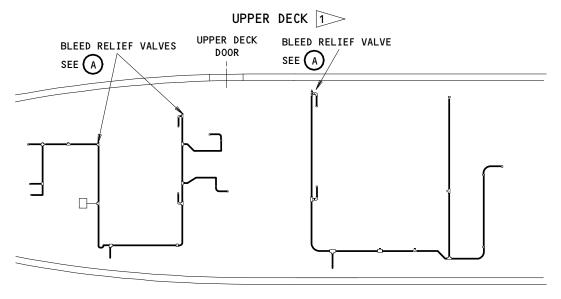
35-21-08

80

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UPPER DECK 2>>

NOTE: THE OXYGEN LINE CONFIGURATIONS SHOWN MAY NOT BE ON ALL

AIRPLANES. IT IS USED GENERALLY TO LOCATE THE BLEED RELIEF VALVES ON ALL AIRPLANES.

1 KLM 025-029 2 KLM 030-099

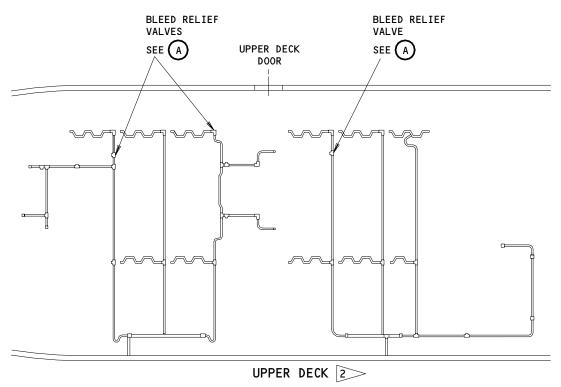
Bleed Relief Valve Installation Figure 401 (Sheet 4)

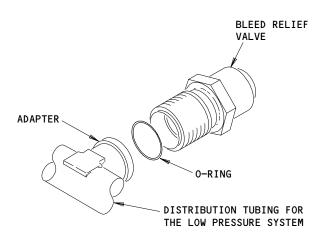
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BLEED RELIEF VALVE



2 UTA ALL

Bleed Relief Valve Installation Figure 401 (Sheet 5)

EFFECTIVITY-ALL

35-21-08

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(3) Close the shutoff valve on each oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 014-004

(4) Get access to (Fig. 402) and find the bleed relief valves which are found in the distribution lines.

s 034-005

CAUTION: ATTACH A WRENCH TO THE FLAT SIDES OF THE ADAPTER AND HOLD THE ADAPTER WHEN YOU REMOVE THE BLEED RELIEF VALVES. THIS WILL PREVENT DAMAGE TO THE DISTRIBUTION LINES.

(5) Cut the safety wire.

s 024-006

(6) Screw out the bleed relief valve from the adapter.

s 034-007

(7) Install a protective cap or plug to open the adapter to prevent contamination of the system.

TASK 35-21-08-404-008

- 3. Bleed Relief Valve Installation (Fig. 401)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-225567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 25-23-04/401 Attendant's Service Unit
    - (2) AMM 25-28-23/201, Upper Deck Stowage Bin
    - (3) AMM 35-00-00/201, Oxygen
    - (4) AMM 35-21-00/501, Oxygen System

EFFECTIVITY-

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ALL



BODY STATION	BUTTOCK LINE	WATER LINE	ACCESS THROUGH
532.0	8.0 R	299.0	ABOVE THE LAVATORY
2262.0	97.0 L	286.0	REMOVE THE ATTENDANT'S SERVICE UNIT (REF 25-23-04/401)
2305.0	7.0 L	284.0	REMOVE THE CENTER CLOSURE PANEL IN THE LOWERED CEILING (REF 25-22-04/401)
520.0	40.0 R	390.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
640.0	45.0 R	385.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
780.0	35.0 R	388.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)

#### KLM ALL EXCEPT COMBIS

BODY STATION	BUTTOCK LINE	WATER LINE	ACCESS THROUGH
522.0	56.5 R	302.0	ABOVE THE LAVATORY
1717.0	5.0 R	299.0	ABOVE THE GALLEY
1721.0	102.0 L	287.0	REMOVE THE STOWAGE BIN (REF 25-28-01/201)
1721.0	102.0 R	287.0	REMOVE THE STOWAGE BIN (REF 25-28-01/201)
520.0	40.0 R	390.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
640.0	45.0 R	385.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
780.0	35.0 R	388.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
820.0	53.0 R	378.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)

### KLM COMBIS

BODY STATION	BUTTOCK LINE	WATER LINE	ACCESS THROUGH
430.0	8.0 R	299.0	REMOVE THE PSU PANEL TROUGH IN ZONE A (REF 25-22-01/401)
2262.0	97.0 L	286.0	REMOVE THE ATTENDANT'S SERVICE UNIT (REF 25-23-04/401)
2365.0	7.0 L	284.0	ABOVE THE LAVATORY
520.0	40.0 R	390.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
640.0	45.0 R	385.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)
780.0	35.0 R	388.0	REMOVE THE STOWAGE BIN IN THE UPPER DECK (REF 25-28-23/201)

KLM 030-099 KLM 025-029 UTA ALL

Bleed Relief Valve Location and Access Figure 402

EFFECTIVITY-

35-21-08

ALL

02

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- (5) IPC 35-20-51
- (6) IPC 35-21-00
- C. Access
  - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-018

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-009

(2) Remove the protective cap or plug from the adapter.

s 214-019

(3) Examine the fittings (threads) to make sure they are clean.

s 434-010

(4) Install new 0-ring on the bleed relief valve if necessary.

s 424-011

CAUTION: ATTACH A WRENCH TO THE FLAT SIDES OF THE ADAPTER AND HOLD THE ADAPTER WHEN YOU REMOVE THE BLEED RELIEF VALVES. THIS WILL PREVENT DAMAGE TO THE DISTRIBUTION LINES.

(5) Turn the screw threads of the bleed relief valve into the adapter, and tighten to a torque value of 65 to 80 pound-inches.

s 434-012

(6) Install the safety wire.

s 414-013

(7) Put back all the items that were removed to get access to the bleed relief valves (Figure 402).

EFFECTIVITY-

35-21-08

ALL



S 864-025

WARNING: OPEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (8) Open the shutoff valve on each oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

s 794-026

(9) Do the Task: Oxygen Low Pressure Leak Test (AMM 35-21-00/501), to do a check for leaks.

s 414-016

ALL

(10) Close the access panels to oxygen cylinders.

EFFECTIVITY-

35-21-08

02.1



#### BLEED RELIEF VALVE - ADJUSTMENT/TEST

#### 1. General

- A. This task is included in this procedure:
  - (1) Functional test of the bleed relief valve
- B. Bleed relief valves are installed in the distribution lines for the low oxygen pressure. Access and location to the bleed relief valves are shown in 35-21-08/401.

TASK 35-21-08-705-001

- 2. Bleed Relief Valve Functional Test
  - A. Special Tools and Equipment
    - (1) ME65B50263-3 Leak Test Kit, Passenger Oxygen System
  - B. Standard Tools and Equipment
    - (1) Cylinder Portable Test
    - (2) Rod Metal, 1/4-inch in diameter
  - C. Consumable Materials
    - (1) G00669 Nitrogen per MIL-P-27401 (to be used with portable test cylinder) (or)
    - (2) G00000 Air Clean, Dry with no particles or fibers larger than 100 microns in the longest dimension per cubic foot of air. It must not have no more than 3 PPM total hydrocarbon by weight or 7 PPM by volume. The moisture content can not exceed 0.00002 grams per liter of air at 70°F and 760 MM mercury. This is equivalent to a dew point of -63.6°F at 760 MM mercury. This air is to be used with portable test cylinder.
    - (3) G00294 Tape Masking Permacel No. 76
  - D. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 31-61-00/501, Integrated Display System (IDS)
    - (4) AMM 35-21-00/501, Oxygen System
    - (5) AMM 32-09-02/201, Air/Ground Relays
    - (6) AMM 35-21-08/401, Bleed Relief Valve
    - (7) AMM 35-21-15/401, Test Adapter
    - (8) IPC 35-20-51
    - (9) IPC 35-21-00
  - E. Access
    - (1) Location Zone

ALL

200 Upper Half Fuselage

EFFECTIVITY-

35-21-08



#### F. Preconditions

s 865-029

- (1) The systems that follow must be installed and serviceable to complete this test:
  - (a) Electrical power on (AMM 24-22-00/201).
  - (b) Integrated Display System (IDS), serviceable (AMM 31-61-00/501).
  - (c) Passenger Oxygen System, serviceable (AMM 35-21-00/501).
  - (d) Airplane must be in Ground Mode (AMM 32-09-02/201).
- G. Prepare for Test

s 915-016

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 015-020

(2) Open the access panels to the oxygen cylinders.

S 865-023

DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE CAUTION: THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 865-003

(4) Make sure the distribution line do not have any open connections.

S 865-014

ALL

(5) Use masking tape or other appropriate means to loosely fasten the oxygen box doors.

EFFECTIVITY-

35-21-08



s 485-004

- (6) Install the test equipment.
  - (a) Get access to the test adapters and connect the ME65B50263-3 pressure gage to one of the test adapters.

NOTE: The test adapters are installed on the right side sidewall in the forward cargo compartment. This is adjacent to to the continuous flow control units (AMM 35-21-15/401). Access to the test adapter is through the access panels (to the oxygen cylinders) which are attached by snaps and velcro tape.

(b) Connect the portable test cylinder to the other test adapter.

s 865-005

- (7) Locate all the bleed relief valves (AMM 35-21-08/401).
- H. Do a Test of the Bleed Relief Valve.

s 865-006

WARNING: OPEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER SLOWLY.

IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION
WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE
TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(1) Slowly open the shutoff valve on the portable test cylinder to pressurize the line to 35 psig.

s 725-007

(2) Listen for a release of air at each bleed relief valve.

s 865-008

(3) Decrease the pressure to 15 psig and permit the system to become stable.

s 725-009

- (4) Listen for the release of air at each bleed relief valve to make sure no more air comes out.
- I. Return the System to its usual state

EFFECTIVITY-

35-21-08

ALL



s 865-010

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE PORTABLE TEST

CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE

TO THE SHUTOFF VALVE.

(1) Close the shutoff valve on the portable test cylinder.

s 085-011

- (2) Remove the test equipment.
  - (a) Disconnect the portable test cylinder from the test adapter.
  - (b) Disconnect the ME65B50263-3 pressure gage from the other test adapter.

s 865-015

(3) Push a 1/4-inch Allen wrench or metal rod through the release access hole to reset the latches.

s 415-018

(4) Close the oxygen box doors.

s 865-012

(5) Remove the devices that hold the oxygen box doors close.

S 865-024

WARNING: OPEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE

AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (6) Open the shutoff valve on each oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

EFFECTIVITY-

35-21-08

09

ALL



S 415-025
(7) Close the access panels to the oxygen cylinders.

ALL

35-21-08



#### VOLTAGE AVERAGING UNIT - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the voltage averaging unit
  - (2) Installation of the voltage averaging unit.
- B. The voltage averaging unit is installed in the right side of the ceiling beam in the forward cargo compartment. It is also aft of the cargo door at approximately STA 740 (Fig. 401). Access to the voltage averaging unit is through the access panels to the oxygen cylinders.

TASK 35-21-10-004-001

- 2. <u>Voltage Averaging Unit Removal</u> (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-10
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
  - B. Access
    - (1) Location Zone
      - 124 Forward Cargo Container Compartment, Aft Half Right
  - C. Procedure

S 914-014

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 014-018

(3) Open the access panel to the oxygen cylinders.

s 034-004

(4) Disconnect the electrical connector from the voltage averaging unit.

s 024-006

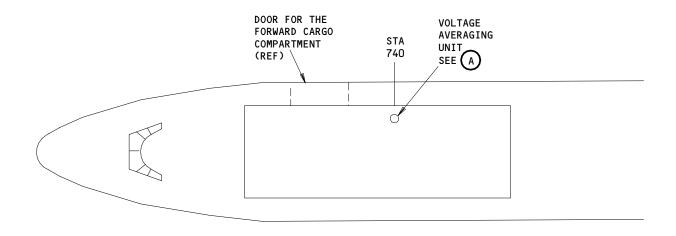
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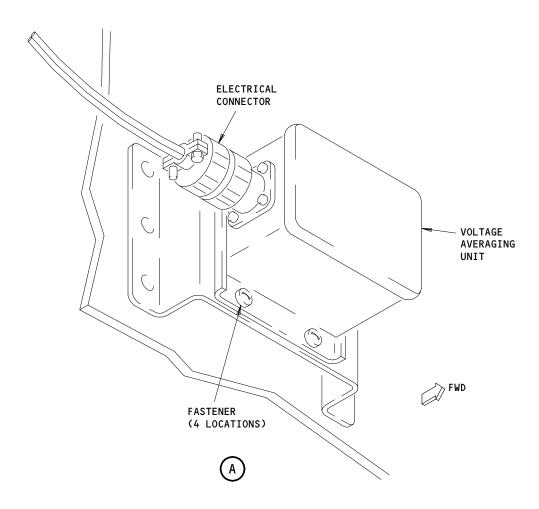
- (5) Remove the voltage averaging unit:
  - (a) Remove the fasteners (4 locations).
  - (b) Remove the voltage averaging unit.

EFFECTIVITY-

35-21-10







Voltage Averaging Unit Installation Figure 401

ALL

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TASK 35-21-10-404-007

- Voltage Averaging Unit Installation (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 35-21-00/501, Oxygen System
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
    - (5) IPC 35-21-10
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

C. Procedure

s 914-029

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 424-008

- (2) Install the voltage averaging unit:
  - (a) Put the voltage averaging unit in position.
  - (b) Install the fasteners (4 locations).

s 434-009

(3) Connect the electrical connector to voltage averaging unit, and install a lockwire on the electrical connector.

s 784-011

(4) Do the procedure: Do the Pressure Indication Test, in the task: Oxygen Operational Test (AMM 35-21-00/501).

s 414-021

ALL

(5) Close the access panels to the oxygen cylinders.

EFFECTIVITY-

35-21-10

1



## PRESSURE TRANSDUCER - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the pressure transducer.
  - (2) Installation of the pressure transducer.
- B. The removal and installation procedures are for a one pressure transducer. To do the procedures for a second pressure transducer do the same steps again.
- C. A pressure transducer is installed on each cylinder coupling assembly (Fig. 401). Access to each pressure transducer is through the access panels.

TASK 35-21-11-004-001

- 2. Pressure Transducer Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-11
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

D. Procedure

s 914-021

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

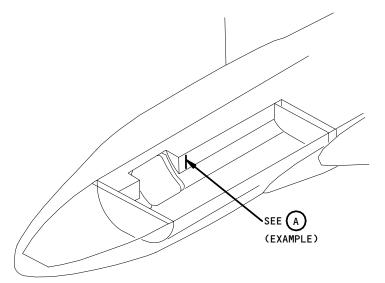
ALL

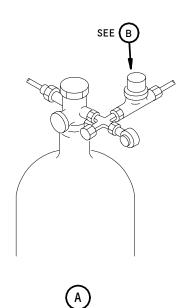
- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

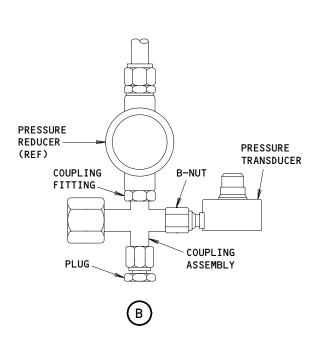
EFFECTIVITY-

35-21-11









Pressure Transducer Installation Figure 401

EFFECTIVITY ALL

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35-21-11

02

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s 014-004

(3) Open the access panel to the oxygen cylinders.

S 864-025

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on each oxygen cylinder slowly.

NOTE: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 034-006

(5) Disconnect the applicable electrical connector to the pressure transducer.

s 024-007

(6) Remove the pressure transducer.

WARNING: LOOSEN THE B-NUT ON THE HIGHT PRESSURE LINE CAREFULLY. IF NOT, THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly and continuously loosen the B-nut on the high pressure line from the pressure transducer to reduce the pressure.
- (b) Remove the pressure transducer.

s 034-008

(7) Install a protective cap and plug to the open oxygen line and the inlet port on the pressure transducer.

NOTE: This will prevent contamination of the system.

TASK 35-21-11-404-009

- 3. <u>Pressure Transducer Installation</u> (Fig. 401)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 24-22-00/201, Manual Control

EFFECTIVITY-

35-21-11



- (2) AMM 35-00-00/201, Oxygen
- (3) AMM 35-21-00/501, Oxygen System
- (4) IPC 35-21-11
- (5) SSM 35-11-01
- (6) WDM 35-11-13
- C. Access
  - (1) Location Zone
    - Forward Cargo Container Compartment, Aft Half Right 124
- Procedure

s 914-022

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-010

(2) Remove the protective cap and the plug.

s 214-023

(3) Examine the fittings (threads) to make sure they are clean.

s 424-011

- (4) Install the pressure transducer:
  - (a) Align the inlet port on the pressure transducer with coupling assembly and install the B-nut loosely.
  - (b) Tighten the B-nut to 170 200 pound-inches.

NOTE: Use a torque wrench and a backup wrench to prevent damage to other components.

s 434-012

(5) Connect the electrical connector.

S 864-013

(6) Supply the electrical power (AMM 24-22-00/201).

S 864-014

ALL

- (7) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

EFFECTIVITY-

35-21-11



S 864-026

WARNING: OPEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(8) Open the shutoff valve on each oxygen cylinder:

s 794-016

(9) Do a Check the pressure transducer connection for leaks with the leak detection compound.

s 144-024

(10) Wipe off all leak detection compound with a clean cotton cloth.

s 784-017

(11) Do the procedure: Do the Pressure Indication Test, in the task: Oxygen Operational Test (AMM 35-21-00/501).

s 414-028

(12) Close all the access panels to the oxygen cylinders.

s 864-020

(13) Remove electrical power if it not necessary (AMM 24-22-00/201).

EFFECTIVITY-

35-21-11

ALL



### PRESSURE REDUCER - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this proedure:
  - (1) Removal of the pressure reducer and the coupling assembly
  - (2) Installation of the pressure reducer and the coupling assembly.
- B. The removal and installation procedures is for one pressure reducer. To do this proedure for a second pressure reducer do the same steps again.
- C. A pressure reducer is installed on each coupling assembly, which is connected to the outlet port of the oxygen cylinder. The oxygen cylinder is located in the forward cargo compartment (Fig. 401). The coupling assembly includes a pressure transducer and a thermal compensator which is an internal part and is removed and installed with the coupling assembly. Access to the pressure reducer and coupling assembly is through the access panels on the oxygen cylinders.

TASK 35-21-12-004-001

- 2. Pressure Reducer Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Caps and Plugs Package of Clean Protective
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-12
    - (3) SSM 35-11-01
    - (4) WDM 35-11-13
  - C. Access
    - (1) Location Zone
      - 124 Forward Cargo Container Compartment, Aft Half Right
  - D. Procedure

s 914-022

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 864-002

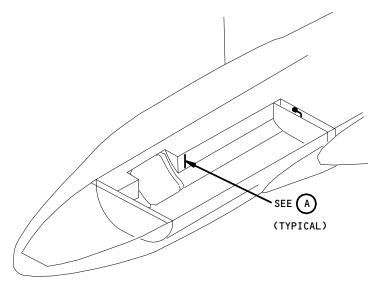
- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

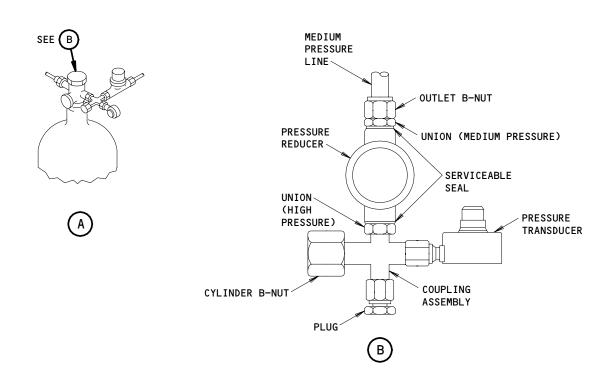
EFFECTIVITY-

35-21-12

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Pressure Reducer Installation Figure 401

ALL

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s 014-030

(3) Open the access panels to the oxygen cylinders.

S 864-028

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(4) Close the shutoff valve on each oxygen cylinder slowly.

<u>NOTE</u>: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 034-005

(5) Disconnect the electrical connector on the pressure reducer.

s 034-006

(6) Remove the coupling assembly

WARNING: LOOSEN THE COUPLING NUT CAREFULLY. IF NOT, THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE THE TEMPERATURE TO INCREASE. THIS CAN START AN IGNITION WITH THE OXYGEN AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (a) Slowly and continuously loosen the coupling nut between the oxygen cylinder and coupling assembly to decrease line pressure.
- (b) Disconnect the coupling assembly from the oxygen cylinder.
- (c) Disconnect the outlet B-nut on the pressure reducer.
- (d) Support the assembly, which includes the coupling assembly and pressure transducer (with the pressure reducer attached).

EFFECTIVITY-

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- (e) Remove the assembly.
- (f) Remove the coupling assembly.

s 034-007

(7) Install the protective caps or plugs to the open lines, fittings or the ports to prevent contamination of the system.

s 024-008

- (8) Remove the pressure reducer.
  - (a) Remove the union from the end on the medium pressure of the pressure reducer.
  - (b) Remove the metal seal between the fitting and the pressure reducer.

NOTE: Save the serviceable seal and the fitting for installation.

CAUTION: YOU MUST USE A WRENCH ON THE LEG FLATS OF THE COUPLING ASSEMBLY WHEN YOU TURN THE PRESSURE REDUCER FREE. IF YOU DO NOT THE COUPLING ASSEMBLY CAN BREAK.

- (c) Remove the union between the pressure reducer and the coupling assembly from the high pressure end.
- (d) Remove the metal seal between pressure reducer and coupling assembly.

NOTE: Keep the serviceable seal and the fitting for installation.

TASK 35-21-12-404-009

- 3. Pressure Reducer Installation (Fig. 401)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-Free, White, Cotton
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 35-00-00/201, Oxygen
    - (3) AMM 35-21-00/501, Oxygen System
    - (4) IPC 35-21-12
    - (5) SSM 35-11-01
    - (6) WDM 35-11-13
  - C. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

EFFECTIVITY-

35-21-12

ALL



#### D. Procedure

s 914-023

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-010

(2) Remove the protective caps or the plugs from the lines, fittings or ports.

s 214-035

(3) Examine the fitting (threads) to make sure they are clean.

s 424-011

- (4) Install the pressure reducer.
  - (a) Put a metal seal with the flat face in the direction of the coupling assembly.
  - (b) Put the ball face in the direction of the high pressure end of the pressure reducer.

CAUTION: MAKE SURE YOU TIGHTEN THE PRESSURE REDUCER AS INDICATED.
THE OXYGEN CYLINDER CAN LEAK AFTER THE INSTALLATION OF THE
COUPLING ASSEMBLY. USE A WRENCH ON THE LEG FLATS OF THE
COUPLING ASSEMBLY TO TIGHTEN THE COUPLING ASSEMBLY. IF
YOU DO NOT THE COUPLING ASSEMBLY CAN BREAK.

- (c) Install pressure reducer to coupling assembly, and tighten to a torque of approximately 300 pound-inches.
- (d) Continue to tighten until a sharp increase in torque occurs.

NOTE: The sharp increase in pressure indicates the parts are in flush contact with the seal. The pressure reducer inlet and outlet ports are different in size. The pressure reducer can only be installed with flow in the correct direction.

CAUTION: MAKE SURE THE UNION IS TIGHTENED AS INDICATED, THE OXYGEN CYLINDER CAN LEAK AFTER THE INSTALLATION OF THE COUPLING.
ASSEMBLY. THIS CAN CAUSE DAMGE OF THE AIRPLANE EQUIPMENT.

- (e) Put the metal seal with flat face in the direction of the union and ball face in the direction of the pressure reducer.
- (f) Install the union in the medium pressure end of the pressure reducer and tighten the union to a torque of approximately 300 pound-inches.

EFFECTIVITY-

ALL

35-21-12



(g) Continue to tighten until a sharp increase in torque occures.

NOTE: This sharp increase in pressure indicates the parts are in flush contact with the seal.

s 434-012

- (5) Install the coupling assembly.
  - Put the assembly which includes the coupling assembly, pressure transducer, and pressure reducer in position with cylinder nut.
  - Make sure this assembly with the coupling to cylinder nut in (b) alignment with the cylinder port.
  - Tighten the coupling assembly to cylinder nut to a torque of 650 to 700 pound-inches.
  - Tighten the B-nut on the pressure reducer outlet. (d)

s 434-013

(6) Connect the electrical connector on the prewsure transducer.

S 864-025

OPEN THE SHUTOFF VALVE ON A OXYGEN CYLINDER SLOWLY. IF NOT, WARNING: HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

DO NOT TIGHTEN THE SHUTOFF VALVE ON A OXYGEN CYLINDER MORE THAN CAUTION: 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (7) Open the shutoff valve on an oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

s 794-015

ALL

(8) Do a check of the connections for leaks with the leak detection compound.

EFFECTIVITY-

35-21-12



S 164-036

(9) Rub the leak detection compound off with a clean cloth immediately after you do the check.

s 864-032

WARNING: OPEN THE SHUTOFF VALVE ON THE REMAINING OXYGEN CYLINDERS SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(10) Open the shutoff valve on the remaining oxygen cylinders:(a) Slowly turn the shutoff valve until it is fully open.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

S 864-017

(11) Supply the electrical power (AMM 24-22-00/201).

s 864-018

(12) Close this circuit breaker and remove the DO-NOT-CLOSE tag: (a) P7 Overhead Circuit Breaker Panel

1) 7D4 OXYGEN VALVE & IND

s 784-019

ALL

(13) Do the procedure: Do the Pressure Indication Test, in the task: Oxygen Operational Test (AMM 35-21-00/501).

EFFECTIVITY-

35-21-12



s 414-026

(14) Close all the access panels to the oxygen cylinder.

s 864-021

(15) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

ALL

35-21-12

02

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## TEST ADAPTER - REMOVAL/INSTALLATION

#### 1. General

- A. Thesee tasks are included in this procedure:
  - (1) Removal of the test adapter
  - (2) Installation of the test adapter
- B. The test adapter is installed in the forward cargo compartment. It is located on the right side of the sidewall adjacent to the flow control units (Fig. 401). Access to the test adapter is through the access panel to the oxygen cylinders.

TASK 35-21-15-004-001

- 2. <u>Test Adapter Removal</u> (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-15
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

- C. Procedure
  - s 914-011
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 014-015

- (2) Open the access panel to the oxygen cylinders.
  - s 864-013
- CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON THE OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.
- (3) Close the shutoff valve on the oxygen cylinders slowly.
  - NOTE: The shutoff valves can be tightened by hand which is equivalent to 25 pound-inches.

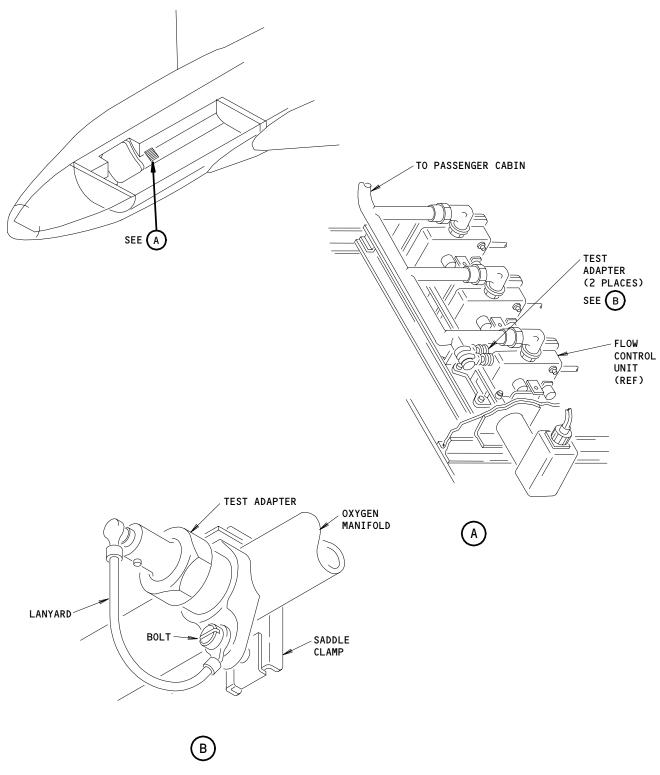
s 024-004

- (4) Remove the test adapter.
  - (a) Remove the saddle clamp bolt
  - (b) Remove the adapter from the manifold.

EFFECTIVITY-

35-21-15





Test Adapter Installation Figure 401

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s 034-005

(5) Install a protective plug in the open port to prevent contamination of the system.

TASK 35-21-15-404-006

- 3. <u>Test Adapter Installation</u> (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-15
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

- C. Procedure
  - s 914-012
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-007

- (2) Remove the protective plug from the port.
  - s 424-008
- (3) Install the test adapter.
  - (a) Put the test adapter in position on the manifold.
  - (b) Install the bolt through the lanyard terminal and into the saddle clamp locknut.
  - (c) Tighten the bolt to 20 pound-inches over torque required to overcome locknut friction.

s 864-017

ALL

WARNING: OPEN THE SHUTOFF VALVE ON ALL THE OXYGEN CYLINDERS SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON ALL THE OXYGEN CYLINDERS MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (4) Open the shutoff valve on all the oxygen cylinders:
  - (a) Slowly turn the shutoff valves until it is fully open.

NOTE: The shutoff valves can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

35-21-15



- (b) Close the shutoff valves one-fourth of a turn.
- (c) Install a lockwire on the shutoff valves.

s 414-018

(5) Close the access panels to the oxygen cylinders.

EFFECTIVITY-

ALL

35-21-15

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### DECOMPRESSION RELAY (R36) - REMOVAL/INSTALLATION

- 1. General
  - A. These tasks are included in this procedure:
    - (1) Removal of the R36 decompression relay.
    - (2) Installation of the R36 decompression relay.
  - B. The decompression relay is installed on the P414 panel.

TASK 35-21-17-004-001

- 2. <u>Decompression Relay (R36) Removal</u>
  - A. References
    - (1) AIPC 35-21-17
    - (2) AMM 35-00-00/201, Oxygen
    - (3) SSM 35-11-01
    - (4) WDM 35-11-11
  - B. Access
    - (1) Location Zone

117 Electrical and Electronics Compartment Left

C. Procedure

s 914-008

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

S 864-002

- (2) Open this circuit breaker and attach a DO-NOT-CLOSE tage:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 024-003

- (3) Remove the decompression relay.
  - (a) Remove the fasteners.
  - (b) Disconnect the plug of the decompression relay from the panel.

TASK 35-21-17-404-004

3. <u>Decompression Relay (R36) Installation</u>

ALL

- A. References
  - (1) AIPC 35-21-17

EFFECTIVITY-

35-21-17



- (2) AMM 35-00-00/201, Oxygen
- (3) AMM 35-21-00/501, Oxygen System
- (4) SSM 35-11-01
- (5) WDM 35-11-11
- B. Access
  - (1) Location Zone

117 Electrical and Electronics Compartment Left

## C. Procedure

s 914-009

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 424-005

- (2) Install the decompression relay.
  - (a) Connect the plug of the decompression relay into the panel.
  - (b) Install the fasteners.

s 864-006

- (3) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P7 Overhead Circit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND

s 714-007

(4) Do the task: "Operational Test - Oxygen System" (AMM 35-21-00/501).

EFFECTIVITY-

35-21-17

ALL



#### OXYGEN SYSTEM RESET SOLENOID - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the reset solenoid.
  - (2) Installation of the reset solenoid.
- B. The reset solenoid for the oxygen system is installed in the forward cargo compartment. It is in the right side sidewall which is adjacent to the continuous flow control units (Fig. 401). Access to the reset solenoid is through the access panels to the oxygen cylinders.

TASK 35-21-18-004-001

- 2. Reset Solenoid Removal (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-21-18
    - (3) SSM 35-11-01
    - (4) WDM 35-11-11
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

- C. Procedure
  - s 914-021
  - (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).
    - s 014-029
  - (2) Open the access panel to the oxygen cylinders.
    - s 864-027
  - CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.
  - (3) Close the shutoff valve on each oxygen cylinder slowly.
    - <u>NOTE</u>: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

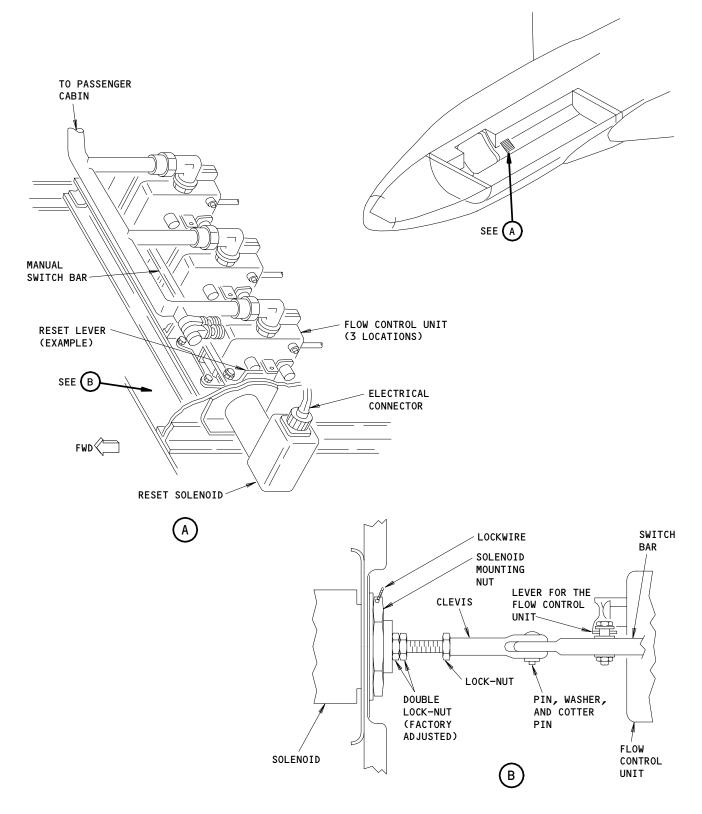
EFFECTIVITY-

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Oxygen System Reset Solenoid Installation Figure 401

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S 864-004

- (4) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXYGEN RESET PWR

s 034-005

(5) Disconnect the DM542 electrical connector from the M542 reset solenoid for the oxygen system.

s 024-006

- (6) Remove the reset solenoid.
  - (a) Remove the lockwire.
  - (b) Remove the cotter pin, washer, and the pin which attaches the switch bar to the clevis.
  - (c) Remove the mounting nut and remove the reset solenoid.

s 034-007

CAUTION: DO NOT ADJUST THE DOUBLE LOCKNUT WHICH ON IS THE SIDE OF THE FACE OF THE RESET SOLENOID. THIS NUT IS FACTORY-ADJUSTED FOR CORRECT OPERATION. INCORRECT ADJUSTMEENT CAN CAUSE DAMAGE TO THE AIRPLANE.

(7) Remove the clevis and the self-locking nut from the reset solenoid.

TASK 35-21-18-404-008

- 3. Reset Solenoid Installation (Fig. 401)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) AMM 24-22-00/201, Manual Control
    - (3) IPC 35-21-18
    - (4) SSM 35-11-01
    - (5) WDM 35-11-11
  - B. Access
    - (1) Location Zone

124 Forward Cargo Container Compartment, Aft Half Right

C. Procedure

s 914-022

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 434-009

(2) Install the self-locking nut and the clevis on the reset solenoid.

s 424-010

- (3) Install the reset solenoid.
  - (a) Install the reset solenoid with the mounting nut.

EFFECTIVITY-

35-21-18

ALL



CAUTION: DO NOT ADJUST THE DOUBLE LOCKNUT WHICH IS LOCATED ON THE SIDE OF THE FACE ON THE RESET SOLENOID. THIS NUT IS FACTORY-ADJUSTED FOR CORRECT OPERATION. IF ADJUSTED IT CAN CAUSE DAMAGE TO THE AIRPLANE.

- (b) Adjust the levis and the self-locking nut to fit the switch bar position.
- (c) 0146 Put the clevis in a position to get a clearance of a maximum of 0.01 inches.

NOTE: This clearnance must be between the reset lever on each control umit and its plunger (Fig. 401).

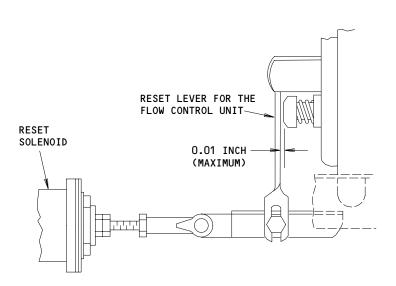
- (d) Install the switch bar on the clevis with the pin, washer, and the cotter pin.
- (e) Tighten the bushings on switch bar.
- (f) Make sure that clearance is kept between the reset lever on each control lever and its plunger.

s 434-011

(4) Connect the DM542 electrical connector to the M542, reset solenoid.

s 864-012

(5) Supply the electrical power (AMM 24-22-00/201).



Oxygen System Reset Solenoid Installation Figure 402

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s 864-013

- (6) Remove the DO-NOT-CLOSE tag and close these circuit breakers:
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7D4 OXYGEN VALVE & IND
    - 2) 7D3 OXY RESET PWR

s 714-014

- (7) Make sure the reset solenoid operates correctly.
  - (a) Momentarily move the oxygen switch on the P5 panel to RESET.
  - (b) Make sure the switch bar moves and the position indicator on each flow control unit moves to OFF.

s 434-015

(8) Install a lockwire on the mounting nut.

S 864-016

(9) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

S 864-026

WARNING: OPEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

- (10) Open the shutoff valve on each oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

<u>NOTE</u>: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

EFFECTIVITY-

ALL

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- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

s 414-031

(11) Close the access panels to the oxygen cylinders.

ALL

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### OXYGEN BOX - REMOVAL/INSTALLATION

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Removal of the PSU oxygen box
  - (2) Installation of the PSU oxygen box
  - (3) Removal of the passenger/attendant's oxygen box
  - (4) Installation of the passenger/attendant's oxygen box
- B. The oxygen box in the passenger service unit (PSU) is installed in the PSUs in the main passenger area and the zone A lowered ceiling panel area. Access to the oxygen box is at these areas.
- C. The oxygen box for the passenger/attendant's is installed at the the areas identified below. Access to the oxygen box is at these areas.
  - (1) Lavatories
  - (2) Crew Rest
  - (3) Attendants' Stations
  - (4) ALL EXCEPT COMBIS AND KLM PASSENGER PASSENER; Door 5 Overhead Crew Rest
  - (5) KLM ALL; Galleys
  - (6) DLH ALL; Purser's Station

TASK 35-21-19-004-001

- 2. PSU Oxygen Box Removal (Fig. 401)
  - A. Standard Tools and Equipment
    - (1) Rod Metal, 3/32-inch in diameter
      - (2) Caps and Plugs Package of Clean, Protective
  - B. References
    - (1) 35-00-00/201, Oxygen
    - (2) IPC 25-23-01
    - (3) IPC 25-23-03
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-027

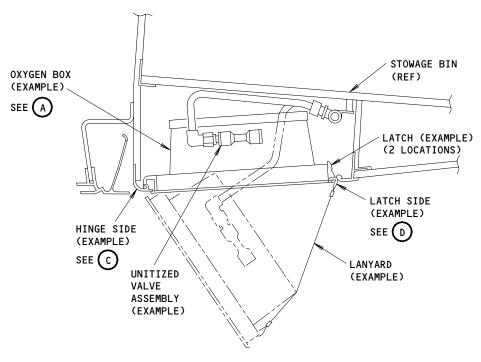
(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

EFFECTIVITY-

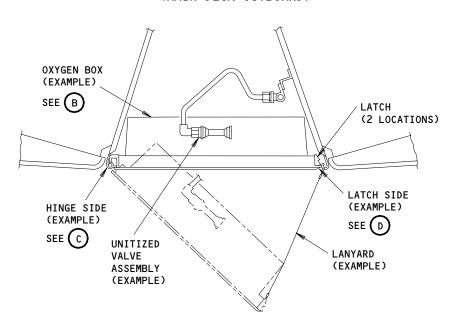
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**OXYGEN BOX** (MAIN DECK OUTBOARD)



OXYGEN BOX (MAIN DECK CENTER)

PSU Oxygen Box Installation Figure 401 (Sheet 1)

EFFECTIVITY-ALL

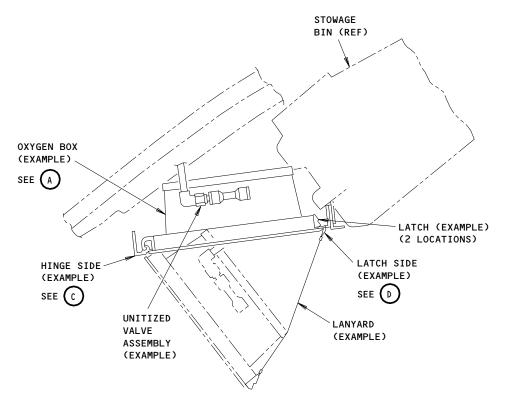
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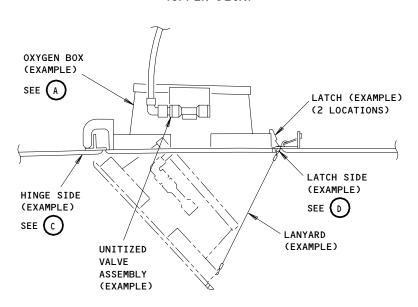
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# OXYGEN BOX (UPPER DECK)



OXYGEN BOX
(ZONE A HYDROPLANE)

PSU Oxygen Box Installation Figure 401 (Sheet 2)

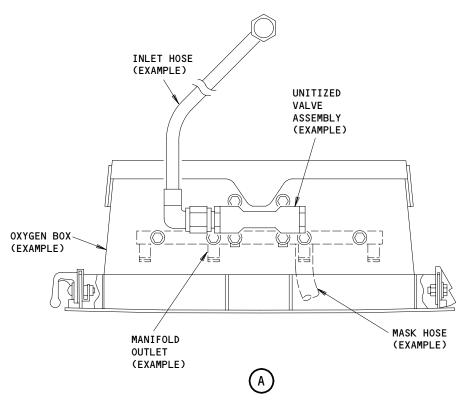
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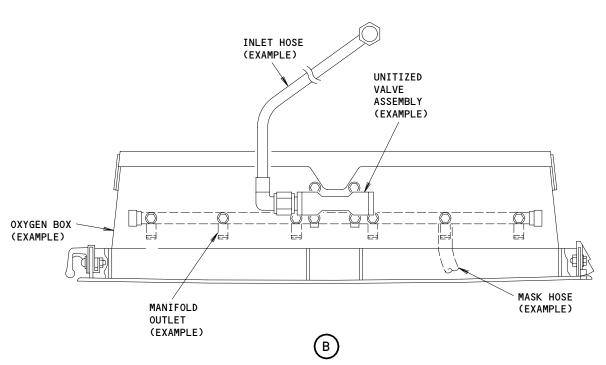
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PSU Oxygen Box Installation Figure 401 (Sheet 3)

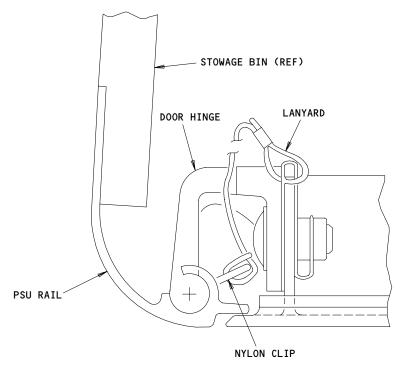
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O1 Page 404

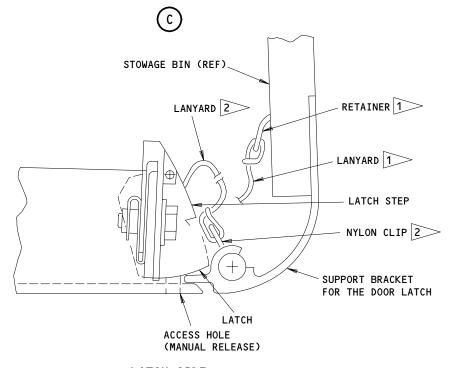
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## HINGE SIDE



1 UPPER DECK PSUs

2 MAIN DECK PSUs

LATCH SIDE



PSU Oxygen Box Installation Figure 401 (Sheet 4)

ALL

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01

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s 414-022

(2) Open the access panels to the passenger oxygen cylinders.

NOTE: The access panels are attached by snaps and velcro tape.

S 844-002

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(3) Close the shutoff valve on each passenger oxygen cylinder slowly.

<u>NOTE</u>: The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 014-003

CAUTION: DO NOT OPEN OXYGEN MASK BOX DOOR. IF DOOR IS OPENED, MASKS WILL DROP AND WILL REQUIRE REPACKING.

- (4) Lower the oxygen box:
  - (a) Put a metal rod which is 3/32-inch diameter into each latch access hole and disengage the latches one at a time.
  - (b) Carefully lower the oxygen box approximately 1/2 inch until it stops on the latch step.

NOTE: This will permit you to operate the latches by hamd.

(c) Push the two latches into the oxygen box and carefully pull down to lower the oxygen box.

NOTE: The oxygen box will be stopped and held by the lanyard.

- (d) Remove the inlet hose from the unitized valve assembly or (if necessary) from the distribution lines.
- (e) Lift the door hinge on the oxygen box out of the PSU rail.

CAUTION: MAKE SURE YOU SUPPORT THE OXYGEN BOX, SO YOU DO NOT DROP THE OXYGEN BOX WHEN YOU DISCONNECT THE LANYARDS. THE OXYGEN BOX CAN BE DAMAGE IF DROPPED.

- (f) Disconnect the lanyards which attach the oxygen box to the stowage bin:
  - 1) Remove the nylon clip on the latch side of the oxygen boxes in the main deck.
  - 2) Press the retainer together to remove from the stowage bin on the latch side of the oxygen boxes in the upper deck.

EFFECTIVITY-

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- 3) Remove the nylon clip from the hinge side of the oxygen boxes in main and upper deck areas.
- (g) Remove the oxygen box.

s 034-005

(5) Install the protective caps or plugs to the open lines, fittings, or the ports to prevent contamination of the system.

TASK 35-21-19-404-006

- PSU Oxygen Box Installation (Fig. 401)
  - A. References
    - (1) 35-00-00/201, 0xygen
    - (2) 35-21-06/401, Passenger Oxygen Mask
    - (3) IPC 25-23-01
    - (4) IPC 25-23-03
  - B. Access
    - (1) Location Zone

200 Upper Half Fuselage

C. Procedure

s 914-028

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 434-007

(2) Remove the protective caps or plugs from the lines, fittings, or the ports.

s 214-032

(3) Examine the fitting (threads) to make sure they are clean.

s 434-020

- (4) Install the oxygen box.
  - (a) Point the oxygen box in the directin of the stowage bin.
  - (b) Connect the lanyards:
    - Install the nylon clips on the latch side of oxygen boxes in the main deck.
    - 2) Press the retainer together to install on the stowage bins for the latch side of the oxygen boxes in the upper deck.
    - 3) Install a nylon clip to the hinge side of oxygen boxes in the main and upper deck areas.
  - (c) Insert a door hinge into the PSU rail and set the oxygen box on the lanyard.
  - (d) Connect the inlet hose to the unitized valve assembly or to distribution lines (as required).

s 424-008

(5) Raise the oxygen box until the latches are engaged.

EFFECTIVITY-

35-21-19

ALL



S 864-009

WARNING: OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER

SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND

DAMAGE TO THE AIRPLANE AND EQUIPMENT.

CAUTION: DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN

CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO

THE SHUTOFF VALVE.

(6) Open the shutoff valve on each passenger oxygen cylinder:

(a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is

equivalent to 25 pound-inches.

(b) Close the shutoff valve one-fourth of a turn.

(c) Install a lockwire on the shutoff valve.

TASK 35-21-19-004-021

4. <u>Passenger/Attendant's Oxygen Box Removal</u> (Fig. 402)

- A. Standard Tools and Equipment
  - (1) Rod Metal, 3/32 inch in diameter
  - (2) Caps and Plugs Package of Clean, Protective
- B. References
  - (1) 35-00-00/201, 0xygen
  - (2) IPC 35-21-05
- C. Access
  - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-029

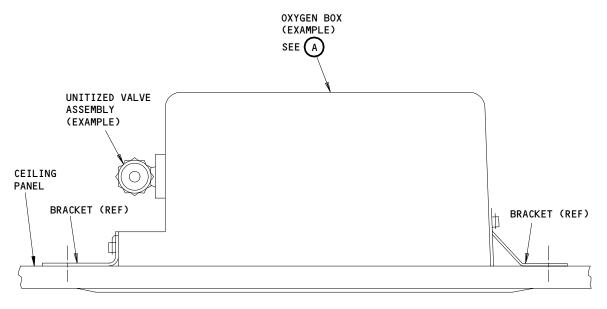
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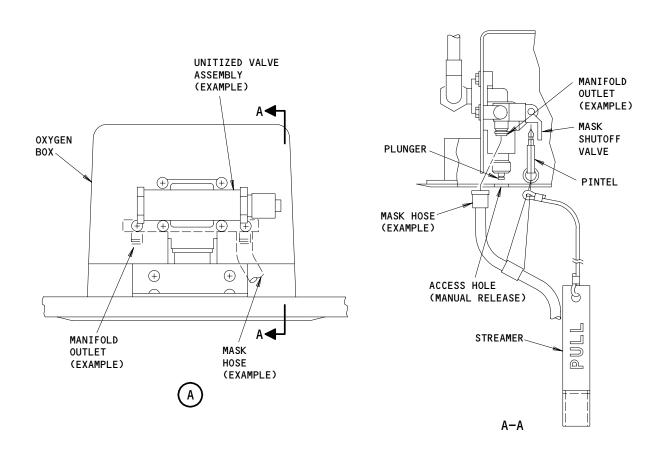
(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

EFFECTIVITY-

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Passenger/Attendant's Oxygen Box Installation (Example) Figure 402

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s 844-010

DO NOT TIGHTEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CAUTION: CYLINDER MORE THAN 25 POUND-INCHES. THIS CAN CAUSE DAMAGE TO THE SHUTOFF VALVE.

(2) Close the shutoff valve on each passenger oxygen cylinder slowly.

The shutoff valve can be tightened by hand which is equivalent to 25 pound-inches.

s 034-011

(3) Insert a 3/32 inch diameter Allen wrench or metal rod into the release access hole and actuate the latch to release the mask door.

s 024-012

(4) Remove the oxygen box.

CAUTION: DO NOT DAMAGE OR PULL ON THE OXYGEN MASKS, BECAUSE THIS CAN CAUSE DAMAGE TO THE AIRPLANE OR ENJURY TO PERSONS.

- (a) Slowly and continuously lower the door and permit the oxygen masks to drop freely.
- (b) Remove the fasteners which attach the oxygen box to the brackets.
- (c) Pull the oxygen box out of the panel or partition until you can get to the inlet hose.
- Disconnect the inlet hose from the unitized valve assembly or (if required) from the distribution lines.
- Remove the oxygen box.

s 494-020

ALL

- (5) Install a protective cap or a plug to the open lines, fittings, or the ports to prevent contamination of the system.
  - (a) Tighten the nylon caps to 10-15 pound-inches.

EFFECTIVITY-

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(b) Tighten the steel caps to 35-45 pound-inches.

TASK 35-21-19-404-013

- 5. Passenger/Attendant's Oxygen Box Installation (Fig. 402)
  - A. Standard Tools and Equipment
    - (1) Rod Metal, 3/32 inch in diameter
  - B. References
    - (1) 35-00-00/201, Oxygen
    - (2) 35-21-06/401, Passenger Oxygen Mask
    - (3) IPC 35-21-05
  - C. Access
    - (1) Location Zone

200 Upper Half Fuselage

D. Procedure

s 914-030

(1) Read and obey the safety precautions and general instructions before you do the maintenance (Ref 35-00-00/201).

s 434-014

(2) Remove the protective caps or the plugs from the lines, fittings, or the ports.

s 214-031

(3) Examine the fitting (threads) to make sure they are clean.

s 424-015

- (4) Install the oxygen box.
  - (a) Point the oxygen box in the direction of the panel or the partition.
  - (b) Connect the inlet hose to the unitized valve assembly or to the distribution lines (as necessary).
  - (c) Put the oxygen box into the panel or the partition.
  - (d) Install the fasteners to the connect the oxygen box to the brackets.

<u>NOTE</u>: There must not be gaps between the panel or the partition and the oxygen box.

EFFECTIVITY-

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01.1



s 434-026

- (5) Close the oxygen box door:
  - (a) Lift the oxygen box door near to the oxygen box.
  - (b) Carefully put a 1/4-inch Allen wrench or metal rod through the release access hole and lift the plunger on the latch.
  - (c) Lift the oxygen box door until it engages the latch and remove the Allen wrench or metal rod.

s 714-041

(6) If it is necessary, do the Passenger Oxygen System Mask Drop Test procedure to ensure that the oxygen boxes are installed correctly and operates as intended (AMM 35-21-00/501).

S 864-019

WARNING: OPEN THE SHUTOFF VALVE ON EACH PASSENGER OXYGEN CYLINDER SLOWLY. IF NOT, HIGH TEMPERATURES CAN OCCUR WHICH CAN START AN IGNITION WITH THE OXYGEN. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

- (7) Open the shutoff valve on each passenger oxygen cylinder:
  - (a) Slowly turn the shutoff valve until it is fully open.

NOTE: The shutoff valve can be closed by hand which is equivalent to 25 pound-inches.

- (b) Close the shutoff valve one-fourth of a turn.
- (c) Install a lockwire on the shutoff valve.

NOTE: Use the 0.020 inch diameter copper lockwire (AMM 20-11-28/401).

S 414-024

ALL

(8) Close the access panels to the passenger oxygen cylinders.

NOTE: The access panels are attached by snaps and velcro tape.

EFFECTIVITY-

35-21-19

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## PORTABLE OXYGEN EQUIPMENT - DESCRIPTION AND OPERATION

#### 1. General

A. The portable oxygen equipment consists of portable oxygen cylinder assemblies and protective breathing equipment (airplanes so equipped) which are mounted at convenient locations (FIM 35-31-00/101). The cylinders provide a portable supply of gaseous breathing oxygen to be used for emergency, first aid or sustaining oxygen for the passengers and/or crew. The breathing equipment provides portable emergency respiratory and eye protection for the crew in an oxygen-deficient, smoke-laden or other toxic atmosphere.

## 2. Portable Oxygen Cylinder Assemblies (Figs. 1, 2)

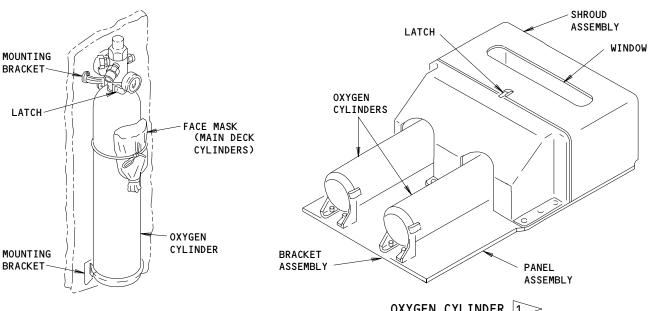
- A. The portable cylinder (when filled to a pressure of 1800 psi) is equivalent to a capacity of 11 cubic feet of free oxygen at 760 mm of mercury and 70°F temperature. The rated service pressure at the above conditions is 1800 psi. A pressure gage on the cylinder assembly indicates the oxygen pressure inside the cylinder and, indirectly, the quantity of oxygen available. High temperature protection is provided by a frangible metal safety disc located in the regulator assembly. In case of excessive pressure, the disc fractures to vent the oxygen to the atmosphere.
- B. Pressure regulators located on the portable oxygen cylinders reduce the high pressure of the cylinders to a value suitable for use. A filling valve facilitates filling of the cylinders when required. The ON-OFF valve controls the flow of oxygen when operated. Two outlets are connected directly to the pressure regulator (Fig. 2). Each outlet contains an internal check valve, a flow metering device, and an oxygen hose plug-in adapter. When a plug-in is inserted, it opens the check valve and allows flow into a mask, provided the cylinder ON-OFF valve is open.
- C. An oxygen mask with an attached hose is secured to each cylinder assembly. For use, the hose has to be connected to the oxygen outlet on the cylinder.

### 3. Protective Breathing Equipment (Fig 1) (Airplanes so Equipped)

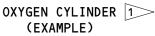
A. The protective breathing equipment is comprised of a loose-fitting, universal sized hood with a demand based chemical air regeneration system. The hood also contains a speaking diaphragm with an oronasal mask cone. The hood is vacuum sealed for long storage life and is installed in a protective container.

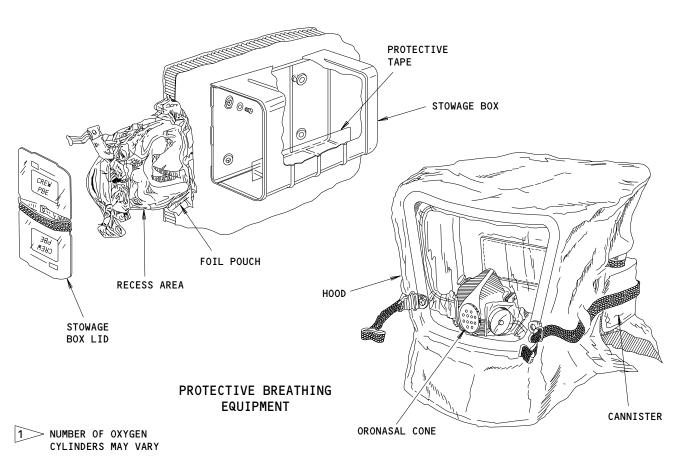
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OXYGEN CYLINDER (EXAMPLE)





Portable Oxygen Equipment Figure 1

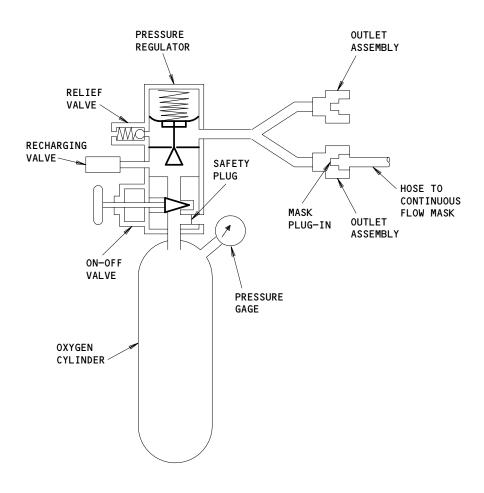
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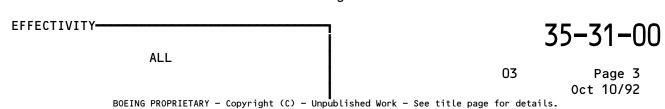
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# Portable Oxygen Equipment and Schematic Figure 2





B. The breathing equipment is totally self-contained and provides a 15-minute supply of oxygen. The breathing equipment is intended for one time use only and is not rechargeable.

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# PORTABLE OXYGEN SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CYLINDER - PORTABLE OXYGEN, CREW 2	1	1	EQUIPMENT STOWAGE IN THE CONTROL CABIN AREA	35-31-00
CYLINDER - PORTABLE OXYGEN, PASSENGER	1		AT VARIOUS LOCATIONS IN THE MAIN AND UPPER DECK AREAS	35-31-00
EQUIPMENT - PROTECTIVE BREATHING 2	1	1	CREW REST ABOVE DOOR NO. 5 AND ATTACHED TO THE CARGO DIVIDER PARTITION	35-31-00
MASK - OXYGEN	1		ATTACHED TO EACH PORTABLE OXYGEN CYLINDER	35-31-00

THE NUMBER OF PORTABLE OXYGEN CYLINDERS AND MASKS CAN CHANGE

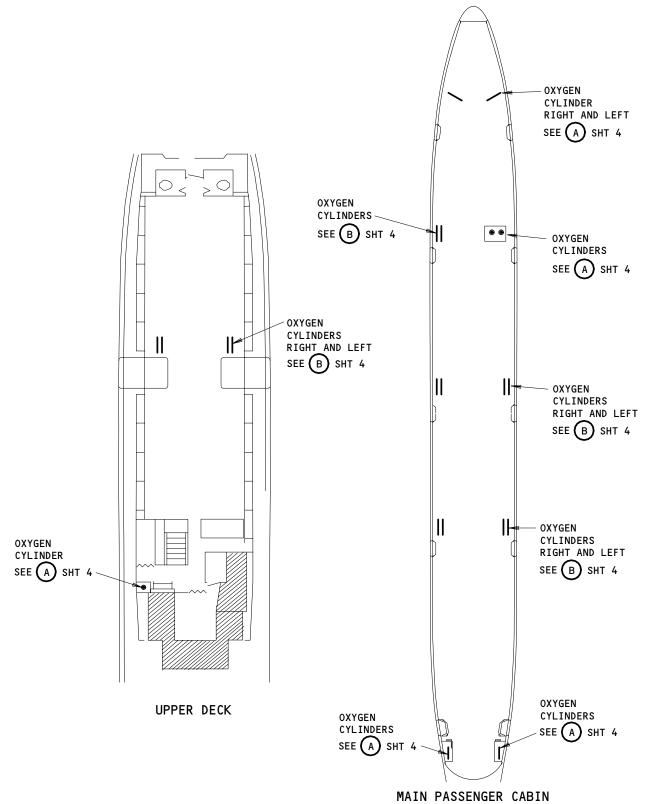
NOT ON ALL AIRPLANES

Portable Oxygen Equipment - Component Index Figure 101

EFFECTIVITY-

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Portable Oxygen Equipment - Component Location Figure 102 (Sheet 1)

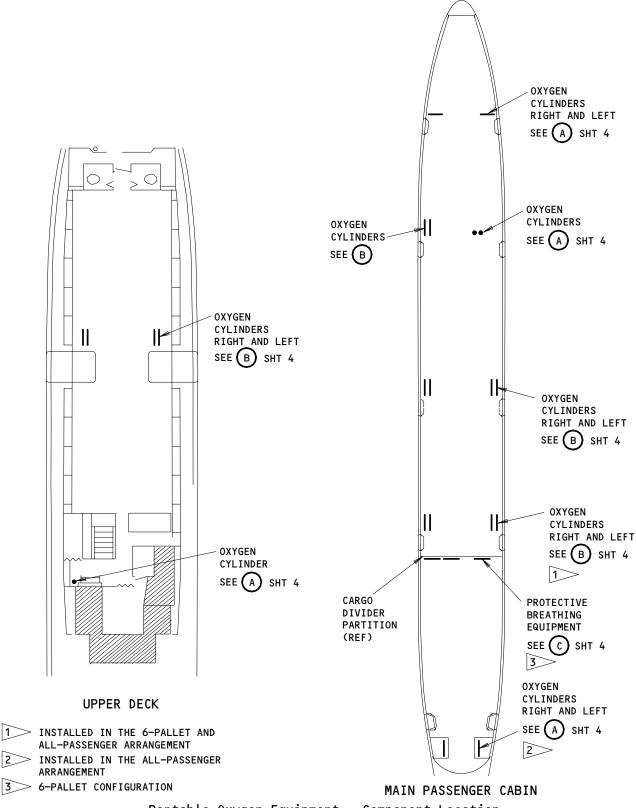
EFFECTIVITY-KLM ALL EXCEPT COMBIS

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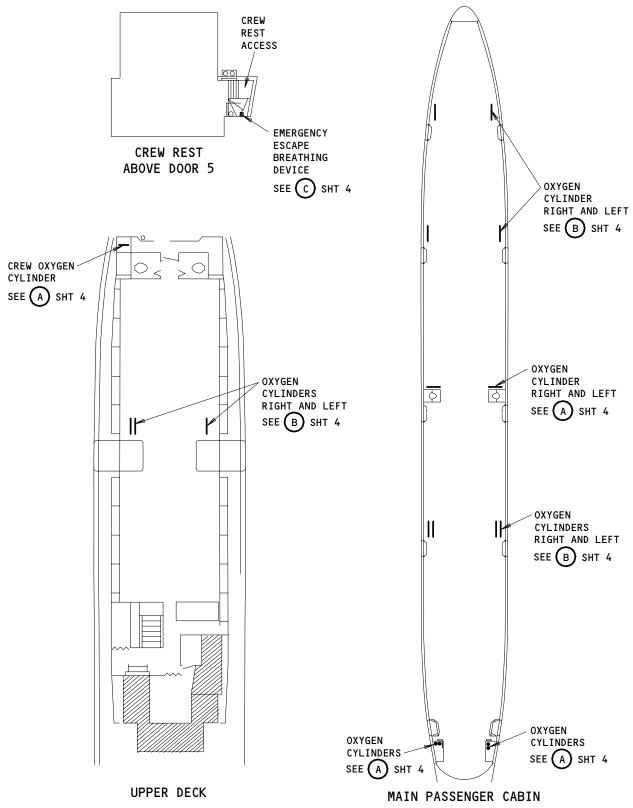
Portable Oxygen Equipment - Component Location Figure 102 (Sheet 2)

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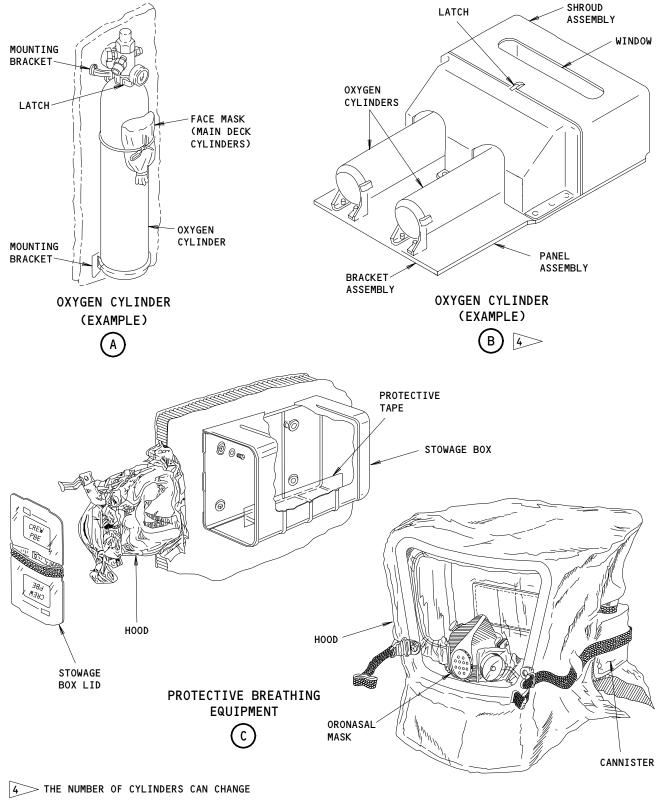
Portable Oxygen Equipment - Component Location Figure 102 (Sheet 3)

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Portable Oxygen Equipment - Component Location (Details from Sht 1,2 and 3)
Figure 102 (Sheet 4)

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## PORTABLE OXYGEN EQUIPMENT - ADJUSTMENT/TEST

#### 1. General

- A. These tasks are included in this procedure:
  - (1) Portable Oxygen Cylinder Pressure and Condition Check
  - (2) Portable Oxygen Cylinder Pressure Test.
- B. The portable oxygen cylinders are installed at different locations.
- C. Do not try to adjust a unit in the field. Send the unit to an approved overhaul depot if it does not operate correctly.

TASK 35-31-00-705-014

- 2. Portable Oxygen Cylinder Pressure and Condition Check (Fig. 501)
  - A. References
    - (1) AMM 35-00-00/201, Oxygen
  - B. Access
    - (1) Location Zone

200 Upper Half Fuselage

C. Procedure

s 915-015

- (1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).
- D. Oxygen Cylinder Pressure Check

s 215-016

(1) Make sure the oxygen cylinder gage pressure is not more that 1800  $\pm$  +/- 50 psi at 70°F (21°C).

<u>NOTE</u>: See Fig. 501 for equivalent portable oxygen cylinder pressures for temperatures other than 70°F (21°C).

s 965-017

(2) Replace the oxygen cylinder, if the gage pressure is below the minimum guideline set by the airline or regulatory authority.

EFFECTIVITY-

35-31-00

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### E. Oxygen Cylinder Condition Check

s 215-018

(1) Make sure the oxygen cylinders are correctly installed to the wall mounted brackets or storage compartments, where applicable.

s 215-019

- (2) Make sure the oxygen cylinders are in satisfactory condition:
  - (a) Make sure the oxygen cylinders are clean.
  - (b) Make sure the oxygen cylinders are not damaged.

TASK 35-31-00-705-001

- 3. Portable Oxygen Cylinder Pressure Test (Fig. 501-503)
  - A. General
    - (1) This procedure is used to determine the proper function of the constant and demand flow regulators and their related outlet assemblies.
  - B. Standard Tools and Equipment
    - (1) Flowmeter 0 to 10 Liters/Minute
    - (2) Mask Demand Flow (As Applicable)
  - C. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-31-00
  - D. Access
    - (1) Location Zone

200 Upper Half Fuselage

#### E. Procedure

s 915-007

(1) Read and obey the safety precautions and general instructions before you do the maintenance (AMM 35-00-00/201).

s 785-002

(2) Do a check of the pressure gage indication.

NOTE: Pressures must be 1800 psi corrected to 70°F (21°C). If the pressure is less than this value, fill the portable oxygen cylinder again.

s 865-003

(3) Turn the knob at least one-half turn counterclockwise to open the ON-OFF valve.

EFFECTIVITY-

35-31-00



s 785-004

(4) Connect the mask hose fitting in each of the constant flow outlets. Use a flowmeter to do a check of the flow of each outlet.

> Each of the constant flow outlets is identified for flow and altitude position by two numbers divided by a dash. The first number shows the flow in liters per minute, and the second shows the altitude. In locations where the outlet is not identified or the code cannot be read, see the part number. The flow and the altitude position can be read on the part number on the basic equipment (Fig. 502). To get the necessary flow at the shown altitude, the outlet flow position for the ground level must be in the range shown in Fig. 503.

s 785-011

(5) UTA ALL;

Connect the demand flow mask into a portable oxygen bottle with an outlet for the demand function regulator:

(a) Make sure the oxygen flows on demand.

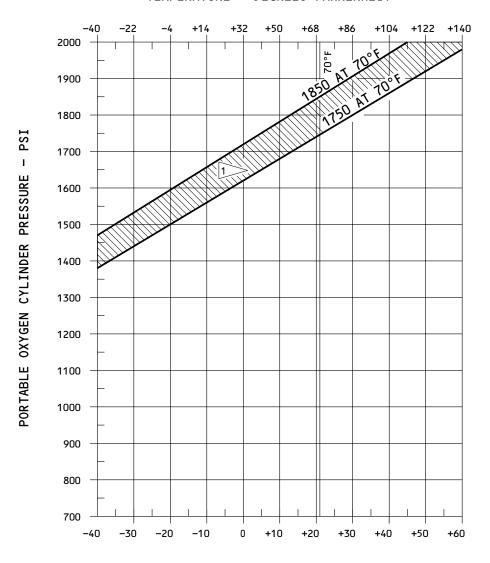
EFFECTIVITY-

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35-31-00



#### TEMPERATURE - DEGREES FAHRENHEIT



TEMPERATURE - DEGREES CELSIUS

> MAXIMUM ALLOWABLE PRESSURE FOR FOR FULLY SERVICED PORTABLE OXYGEN CYLINDER

Oxygen Cylinder Pressure - Temperature Correction Chart Figure 501

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35-31-00

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Constant Flow Outlet Position in the Standard Liters/Minute at the Specified

Altitude	ltitude					
Letter	Flow					
A	0.5					
В	2.0					
С	2.5					
D	2.7					
E	3.0					
F	4.0					
G	7.0					
Н	8.0					

This number multiplied by 1000 will be equal to the altitude in feet

Cylinder Flow and Altitude Codes Figure 502

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Flow of Oxygen in Stan- dard Liters/Minute (760 mm Hg, 32°F) at the Specified Altitude	ALTITUDE - FEET X 1000						
	5	10	15	20	25	30	
	Flow of Oxygen in Standard Liters/Minute (760 mm Hg, 32°F) at the Ground Level						
0.5	0.74	0.86	0.91	0.96	1.00	1.08	
2.0	2.51	2.65	2.72	2.80	2.84	2.89	
2.5	3.07	3.21	3.30	3.40	3.44	3.47	
2.7	3.37	3.48	3.58	3.65	3.72	3.78	
3.0	3.72	3.85	3.97	4.08	4.14	4.22	
4.0	4.83	4.98	5.10	5.21	5.30	5.38	
7.0	8.40	8.52	8.71	8.81	8.91	9.02	
8.0	9.58	9.71	9.92	10.02	10.12	10.25	

Ground Level Constant Flow Position Figure 503

294140

35-31-00

01

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### PORTABLE OXYGEN EQUIPMENT - INSPECTION/CHECK

#### 1. General

- A. These tasks are included in this procedure:
  - (1) A check of the portable oxygen bottles for pressure and leaks
  - (2) A check of the portable oxygen bottles for correct installation and condition
  - (3) A visual check of the foil pouch on the protective breathing equipment (PBE) (airplanes with this component).
- B. The portable oxygen bottles and the PBEs (airplanes with this component) are installed at locations that permit easy access (Fig. 601).

TASK 35-31-00-206-001

- 2. Portable Oxygen Bottles Pressure and Leak Check (Fig. 601)
  - A. Consumable Materials
    - (1) G00091 Compound Oxygen System Leak Detection (MIL-L-25567)
    - (2) G00713 Cloth Clean, Dry, Lint-free, White, Cotton
  - B. References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-31-00
  - C. Access
    - (1) Location Zone
      - 200 Upper Half Fuselage
      - 221 Control Cabin Left (if applicable)
      - 222 Control Cabin Right (if applicable)
  - D. Procedure

s 916-017

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 786-002

(2) Read the pressure gage and make sure the pressure is 1800 psi (nominal pressure at 70 degrees Fahrenheit).

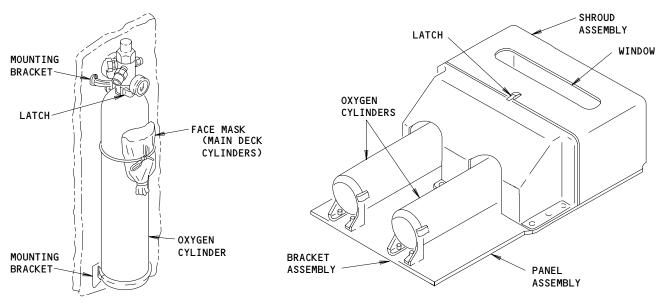
<u>NOTE</u>: The approved pressure is also shown by a red band on the pressure gage on the oxygen bottle.

(a) Replace the portable oxygen bottle if the pressure is less than this value.

EFFECTIVITY-

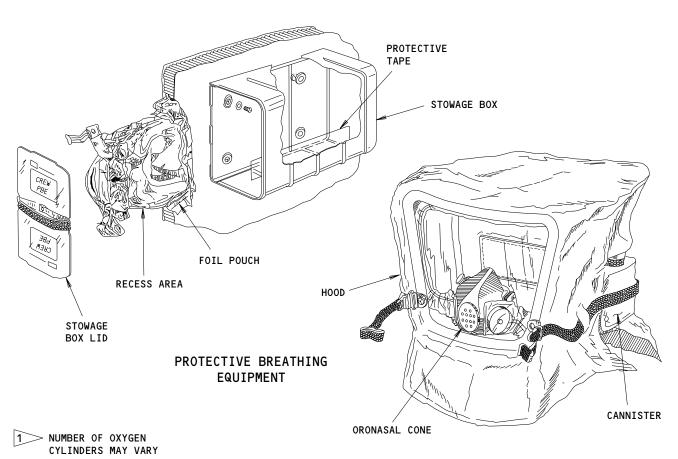
35-31-00





**OXYGEN CYLINDER** (EXAMPLE)

OXYGEN CYLINDER 1 (EXAMPLE)



Portable Oxygen Equipment Figure 601

EFFECTIVITY-ALL

35-31-00

03

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s 866-003

(3) Turn the knob on the ON-OFF valve counterclockwise to open it.

s 796-032

- (4) Do a check of the portable oxygen bottles for leaks:
  - Apply the leak detection compound to all fittings and connections.
  - (b) Look for bubbles to find leaks.
  - (c) Rub the leak detection compound immediately after you do the check to make the fittings and connections dry.

DO NOT TIGHTEN THE FITTINGS AND CONNECTIONS MORE THAN CAUTION: THE TORQUE WHICH IS PERMITTED. THIS CAN CAUSE DAMAGE TO THESE PARTS

- 1) If you find leaks, tighten the fittings and connections.
- 2) If you cannot stop the leaks, send the portable oxygen bottle to an approved facility for an overhaul.

NOTE: Do not permit the leaks to continue.

s 216-033

(5) Make sure it is not more than five years since the oxygen cylinder had its last hydrostatic test.

The last hydrostatic test data will be stamped on the NOTE: neck of the oxygen cylinder.

TASK 35-31-00-206-011

- 3. Portable Oxygen Bottles Correct Installation and Condition Check (Fig. 601)
  - References
    - (1) AMM 35-00-00/201, Oxygen

ALL

EFFECTIVITY-

35-31-00



- (2) IPC 35-31-00
- B. Access
  - (1) Location Zone

Upper Half Fuselage 200

221 Control Cabin, Left (if applicable)

C. Procedure

s 916-020

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 216-009

(2) Make sure the portable oxygen bottles are correctly installed to the wall-mounted brackets or containers, where applicable.

s 216-010

- (3) Make sure the portable oxygen bottles are in satisfactory condition:
  - (a) Make sure the portable oxygen bottles are clean.
  - (b) Make sure the portable oxygen bottles are not damaged.

S 866-034

(4) Read the pressure gage and make sure the pressure is above the minimum pressure necessary for dispatch.

The minimum pressure necessary for dispatch is 1800 psi NOTE: (at normal pressure at 70 degrees fahrenheit). The approved pressure is also shown by a red band on the pressure gage on the oxygen bottle.

Replace the portable oxygen bottle if the pressure is less than this value.

TASK 35-31-00-206-014

- Protective Breathing Equipment (PBE) Check (If Installed) (Fig. 601)
  - References
    - (1) AMM 35-00-00/201, Oxygen
    - (2) IPC 35-31-00

ALL

EFFECTIVITY-

35-31-00



- B. Access
  - (1) Location Zone

274 Area Above Ceiling, Right

- C. Procedure
  - NOTE: The PBE has a tamper seal which does not have to be removed to do this check.

s 916-019

(1) Read and obey the safety precautions and general instructions for the oxygen system before you do the maintenance (AMM 35-00-00/201).

s 216-015

- (2) Make sure the PBE is in its correct position and the pouch is not inflated.
  - NOTE: The foil pouch can be seen through the window on the stowage box door. The foil pouch must look tightly compressed, and a recess in the foil pouch will be immediately in back of the oronasal mask cone.
  - (a) Replace the PBE if the foil pouch does not have a vacuum and is inflated.

EFFECTIVITY-

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