OXYGEN SYSTEM MODIFICATION - ADJUSTMENT/TEST

1. General

A. This procedure has the following tasks:
(1) Middle Pressure Leak Test - Operational Test

NOTE: Test and check values for the following tests must be recorded in the tables provided.

(2) Oxygen Pressure Reducer Test - Operational Test
(3) Simulated Automatic Actuation Test - Operational Test

2. Middle Pressure Leak Test - Operational Test

A. General
(1) This procedure ensures that the oxygen system does not have any pressure leaks.

B. References
(1) AMM XX-XX-XX, Oxygen
(2) AMM XX-XX-XX, Air/Ground Relays
(3) AMM XX-XX-XX, Oxygen
(4) AMM XX-XX-XX, Passenger Oxygen System
(5) AMM XX-XX-XX, Flow Control Unit

C. Access
(1) Location Zones
(a) XXX Forward Cargo Compartment
(b) XXX Forward Cargo Compartment
(c) XXX Upper Deck

D. Test Procedure
(1) Ensure that the oxygen system is in serviceable condition (AMM XX-XX-XX).
(2) Put the aircraft in ground mode (AMM XX-XX-XX).
(3) Read the safety precautions and general instructions before performing maintenance (AMM XX-XX-XX).
(4) Open the access panels to the oxygen cylinders.

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

(5) Do the task “Close the Shutoff Valve on Passenger Oxygen Cylinders” (AMM XX-XX-XX, p. 201).

WARNING: LOOSEN SYSTEM COMPONENTS SLOWLY AND CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

(6) Disconnect the supply manifold from the pressure reducer outlet at point A on each passenger oxygen cylinder (AMM XX-XX-XX, Fig. 501).

(7) Put a cap on each pressure reducer outlet to prevent contamination of the system.
(8) Connect the auxiliary pressure source and a 0-2000 psi pressure gage to one supply manifold at point A.
(9) Put a cap on the other open supply manifolds at point A.

WARNING: OPEN THE SHUT-OFF VALVE ON THE AUXILIARY PRESSURE SOURCE 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.

(10) Open the shut-off valve on the auxiliary pressure source slowly and start to pressurize the system to a value of 1750 to 1950 psig.
(11) Let the system cool down for 1 minute when the pressure reaches 1000 to 1500 psig.

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

(12) After the system pressure becomes stable, close the shut-off valve on the auxiliary pressure source.
(13) Make sure no leaks show over a period of 5 minutes on the 0-2000 psi pressure gauge.
(14) If the gauge shows a pressure decrease, perform the following leak check:

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(a) Start to open the shut-off valve on the auxiliary pressure source slowly, and pressurize the system to a value of 1750 to 1950 psig.
(b) Permit the system to cool down for 1 minute when the pressure reaches 500, 1000 and 1500 psig.
(c) Check of all connections for leaks with the leak detection compound.
(d) Remove the leak detection compound with a clean cotton cloth immediately after the check.
(e) Make sure there are no leaks and test until the system is satisfactory.

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

Close the shut-off valve on the auxiliary pressure source.
(g) Return the system to normal:

WARNING: LOOSEN THE CONNECTION ON THE OXYGEN SYSTEM 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.

(h) Disconnect and remove the auxiliary pressure source, the pressure gauge, 0-2000 psi, and all caps from the oxygen system.
(i) Reconnect the supply manifolds at point A (AMM XX-XX-XX, Fig. 501) on each oxygen cylinder.
(15) Do the task “Open the Shutoff Valve on Passenger Oxygen Cylinders” (AMM XX-XX-XX).
(16) Do AMM Task XX-XX-XX-702-079, Gaseous Oxygen System Leak Testing.
(17) Close the access panels to the passenger oxygen cylinders.

3. Oxygen Pressure Reducer Test - Operational Test

A. References
(1) AMM XX-XX-XX, Passenger Oxygen System

B. Test Procedure
(1) Do AMM task XX-XX-XX-705-049-001, Oxygen Pressure Reduc ch passenger oxygen cylinder.
(2) Record results.

4. Simulated Automatic Actuation Test - Operational Te

A. General
(1) This procedure ensures proper ment e oxygen system.

NOTE: Record result

B. References
(1) AMM XX-XX-XX, Integrat is ystem
(2) AMM XX-XX-X rour ela
(3) AMM XX-XX- gen ystem
(4) AMM XX-XX-X Oxygen Supply Components
(5) SSM XX-XX-XX, S Schr ics Manual
(6) WDM XX-XX, Wi gram Manual
(7) X iring Dia

C. Access
(1) Locat
(a) wd Cargo Container Compartment - STA 720 to 970
(b) X per Half of Fuselage

tion
(1) E e that the electrical power is installed and serviceable (AMM XX-XX-XX).
( ure that the oxygen system is installed and serviceable (AMM XX-XX-XX).
nsure that the airplane is in ground mode (AMM XX-XX-XX).
(4) Ensure that the Integrated Display System (IDS) is installed and serviceable (AMM XX-XX-XX).
(5) Ensure that the passenger address and entertainment systems are installed and serviceable (AMM XX-XX-XX).
(6) Read and obey the safety precautions and general instructions before performing maintenance (AMM XX-XX-XX).
(7) Supply electrical power (AMM XX-XX-XX, page 201).

(8) Remove the DO-NOT-CLOSE tag and close the following circuit breaker(s):

| Panel | Circuit Breaker Title | Ident | Location |
|---|---|---|---|
| P7 | OXYGEN RESET POWER | | D3 |
| P7 | OXYGEN VALVE & IND | | D4 |

(9) Do the task Obtain Airplane Information Report (AMM XX-XX-XX, page 201) to apply power to the EICAS (if necessary).

(10) Do the task Access Bite Test (AMM XX-XX-XX, page 501) to turn on the ACCESS system (if necessary).

(11) Open the panels to the oxygen cylinders.

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

(12) Close the shut-off valve on each oxygen cylinder.

NOTE: The shut-off valve can be opened and closed by hand, which is equivalent to 25 pound-inches.

WARNING: LOOSEN SYSTEM COMPONENTS SLOWLY AND CAREFULLY. THE REMAINING OXYGEN CAN RELEASE WITH A LARGE FORCE AND CAUSE INJURY TO PERSONS AND DAMAGE TO THE AIRPLANE AND EQUIPMENT.

WARNING: USE ONLY OXYGEN CLEAN COMPONENTS IN THE OXYGEN SYSTEM. IF YOU DO NOT USE OXYGEN CLEAN COMPONENTS, THIS CAN CAUSE A FIRE OR AN EXPLOSION WHEN NEAR PRESSURIZED OXYGEN. THIS CAN CAUSE DAMAGE TO EQUIPMENT OR INJURIES TO PERSONS.

(13) If the tests will be conducted using an auxiliary pressure source (as an alternative to the oxygen system cylinders), do the steps that follow:

(a) Remove the cap at point B from the coupling assembly of the oxygen cylinder to be tested (AMM Task XX-XX-XX-715-128-001, Figure 501).

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Connect the auxiliary pressure source to the coupling assembly at point B (AMM Task XX-XX-XX-715-128-001, Figure 501).

(c) Connect the auxiliary pressure source to a coupling assembly at the therapeutic oxygen bottles in the ceiling (AMM Task XX-XX-XX-715-128-001, Figure 501, Point B).

NOTE: Oxygen clean fittings come from a sealed package labeled for oxygen system installation. Make sure that you use only oxygen clean fittings. Some fittings used in the oxygen system are the same as fittings used in other systems that are not oxygen clean. If it is necessary to clean parts, use the

applicable oxygen procedures to clean the parts. This also applies to tube caps and plugs, which must be as clean as the installation connections.

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(d) Remove the plug at point C (AMM XX-XX-XX-715-128-001, Figure 501) and connect a 0-2000 psig pressure gauge.

NOTE: NOTE: Oxygen clean fittings come from [illegible] labeled for oxygen system installation. Make sure that [illegible] oxygen clean fittings. Some fittings used in the oxygen system are the same as fittings used in other systems that are not oxygen clean. If it is necessary to clean parts, use the applicable oxygen procedures to clean them. This also applies to tube caps and plugs, which must be as clean as the installation connections.

(e) Connect a 0-150 psig pressure [illegible] hose to the test port (pressure).

(14) Restrain the oxygen box doors so [illegible] can unlatch but the oxygen masks do not drop.

NOTE: Use a tool, tape or other applicable means to loosely restrain the doors to prevent the masks from dropping.

E. Test Procedure

(1) Make sure the oxygen box doors are kept in place by tape or other applicable means.

NOTE: If the [illegible] is pushed and the oxygen boxes are not secured in place, the oxygen masks will drop. The mask will then have to be installed again.

(2) Use the [illegible] to retract the oxygen mask doors.

(3) Open the [illegible] on the auxiliary pressure source slowly and start to pressurize the system to a value of 30 psig.

(4) Connect a variable vacuum source to the M101 electropneumatic unit.

Slowly increase the pressure on the variable vacuum source until the flow control unit comes on.

(5) Check that these things occur:

(a) The indicator on the flow control unit moves to ON position at a vacuum pressure of 18.11 to 17.30 inches Hg absolute (equivalent to 13.250 to 14.400 foot altitude).

The 0-150 psig pressure gauge indicates an initial pressure surge (within 20 seconds) between 35 and 110 psig.

(c) All the oxygen box doors unlatch.

(d) The PASS OXYGEN ON advisory message displays on EICAS.

(e) The NO SMOKING and FASTEN SEAT BELTS signs come on.

(7) Slowly decrease the pressure on the variable vacuum source to 9.72 Hg absolute (equivalent to 28.000 foot altitude).

(8) Make sure the pressure in the system is 25.10 to 35.17 psia.

(9) Slowly decrease the pressure on the variable vacuum source to 5.54 inches Hg absolute (equivalent of 40.000-foot altitude).