

Cape Cod Community College AMTS

Practical Project Guide for AMT 219 Airframe Curriculum, Subject Item 35

Part 147, Appendix C, Part II, Subject C – Cabin Atmosphere Control Systems

Item 35. Inspect, check, troubleshoot, service and repair oxygen systems (Level 2)

Project 1

Purpose: To acquaint the student with the proper procedures for inspecting, checking, troubleshooting, servicing, and repairing oxygen systems, the instructor will demonstrate this procedure.

References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 2 (FAA-H-8083-31) Chapter 16

Equipment and Tools Needed:

- (1) Scott Aviator’s Portable Oxygen Bottle
- (2) Scott Oxygen Mask
- (3) Non-sparking hand tools
- (4) Personal Protection Equipment (PPE)

Supplies and Materials Needed:

- (1) Teflon tape
- (2) Alcohol wipes
- (3) Appropriate consumables (Trichloroethylene, acetone, antiseptic and/or mild cleaning agent)

Procedure:

WARNING

Do not permit open flames or sparks within 50 feet of system.

Before any work is attempted, an adequate fire extinguisher should be on hand. Cordon off the area and post “NO SMOKING” placards.

Clean, grease-free hands, clothes, and tools are essential to prevent injury.

(1) If any steps below indicate an abnormal condition or failure, troubleshoot to faulted component for repair or replacement:

a. Inspect the portable oxygen bottle:

- 1 Check hydrostatic dates on cylinder, if cylinder is out of date, remove and replace it with a specified unit that is serviceable.

Certification Type	Material	Rated pressure (psi)	Required hydrostatic test	Service life (years)	Service life (fillings)
DOT 3AA	Steel	1,800	5	Unlimited	N/A
DOT 3HT	Steel	1,850	3	24	4,380
DOT-E-8162	Composite	1,850	3	15	N/A
DOT-SP-8162	Composite	1,850	5	15	N/A
DOT 3AL	Aluminum	2,216	5	Unlimited	N/A

- 2 If cylinder is below 50 psi, remove and replace it with a specified unit that is serviceable.

b. Inspect mask and hoses:

- 1 Leaks, holes, and tears are not acceptable, if found, remove and replace it with a specified unit that is serviceable.
- 2 If mask is designed for re-use, service the mask with a mild cleaner, solution, antiseptic, and/or alcohol wipe.

PETROLEUM PRODUCTS ARE NOT TO BE USED

(2) Donning straps should be in good condition and function so the mask is held firm to user's face.

a. Tubing, valves, and fittings:

- 1 If tubing found damaged or in need of repair, ensure that installation of new component has been thoroughly cleaned to prevent obstruction or contamination to oxygen system. Tubing should be blown or baked dry before installation.
- 2 When connecting and threaded valves or fittings, Teflon tape is to be used on threads, to prevent tape from coming loose, begin wrapping at least two threads from end of fitting. iii. If tubing, valves, and fittings are found to be beyond repair, replace with specified unit that is serviceable.

(3) If all requirements have been completed, the Aircraft Logbook will be signed off to return to an airworthy condition.

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