ENGINE TECHNOLOGIES INC.
REPORT 35-4960003, REV. NONE, APRIL 27, 2009
INSTALLATION INSTRUCTIONS
FOR AFT MOUNTED OXYGEN SYSTEM ON
HAWKER BEECHCRAFT
G36 AND G58 AIRCRAFT

INSTALLATION INSTRUCTIONS

AFT MOUNTED OXYGEN SYSTEM INSTALLATION – HAWKER BEECHCRAFT G36 and G58

This section gives instructions for installation of the 115 cubic foot Kevlar bottle aft of the baggage compartment using the Mountain High components.

COMPONENTS ARE, 115 CU FT KEVLAR BOTTLE. PRESSURE TRANSDUCER, AND ELECTRICALLY OPERATED ON/OFF SOLENOID MOUNTED TO RCV/RCR VALVE. FILL PORT WITH MECHANICAL GAGE MOUNTED INSIDE PASSENGER DOOR AREA. TWO DUAL USER PORTS MOUNTED IN HEADLINER AFT OF FRONT SEATS AND AFT OF #6 SEAT. ELECTRICALLY OPERATED ON/OFF SWITCH AND PRESSURE GAGE ON INSTRUMENT PANEL. SEE FLIGHT MANUAL SUPPLEMENT FOR OPERATION AND CONTINUED AIRWORTHINESS.

CAUTION: KEEP HANDS, TOOLS, CLOTHING, AND OXYGEN EQUIPMENT CLEAN AND FREE FROM GREASE AND OIL. KEEP FIRE AND SPARKS AWAY FROM OXYGEN.

Note: All locations of station and water line are approximate and some latitude should be given for exact locations.

1. Check area behind aft cabin bulkhead (STA 189.00) and verify that oxygen bottle support structure and bottle may be installed on right hand side of fuselage as shown on sheet 2 of drawing 35-1050002 without interfering with critical aircraft systems.

2. Install lower support assembly, P/N 35-4950005, by placing lower tabs against stringer at -5.75 WL and aft tab against former at STA 207.00 as shown on sheets 1 and 2 of drawing 35-1050002. Drill .125 dia. holes and install CR3213-4-02 rivets as shown on sheet 1 of drawing 35-1050002. Rivet holes to be placed to maintain proper edge distances and with equal spacing between rivets. Place 35-4900016 lower bracket support loosely between support assembly and fuselage skin before setting rivets.

3. Place 35-4900016 lower bracket support against former at STA 189.00. If there is an existing rivet head or tail that will interfere with the bracket making good contact with the former, remove the rivet and either leave hole empty or use as one of the rivet locations as outlined in next step, depending on edge distance. Match drill holes and attach 35-4900016 support to 35-4950005 with 5 CR3213-4-02 rivets as shown on sheet 1 of drawing 35-1050002.

4. Both aft and forward brackets must be aligned so that the inboard flat surface is straight up and down. Drill three .125 diameter holes each in forward and aft supports on lower support assembly and install CR3213-4-02 rivets as shown on sheets 1 and 2 of drawing 35-1050002.

5. Install upper support assembly, P/N 35-4950004, with support bracket, P/N 35-4900017, the same as the steps for installation of the lower support assembly in steps 2 through 4, except attach to stringer at STA +5.50 WL. See drawing 35-1050002 for details.

6. Locate and install 35-4900018 vertical support as shown on drawing 35-1050002.

7. Place bottle mount pad 35-4900020 with slot down and outboard. The slot should straddle the stringer at butt line 9R. Locate pad directly below the bottle mount feet of the support structure installed above.

8. Inspect 115 cu ft Kevlar bottle CYL1054 for defects. Check test date marked on bottle label. Make sure the low profile manifold is installed and tight. To place bottle onto bottle pad, point bottle aft and up and slip through opening to clear structure and place onto bottle mount pad. If everything worked out correctly the bottle should stand straight up directly inboard of previously installed support brackets.

9. Check to make sure there is enough clearance around the bottle and surrounding items. Check the control cables are not too close to bottle. Check the upper portion for clearance to aircraft structure.

10. Install bottle mount clamps through mount feet and around bottle. Mark area of bottle where clamps wrap around bottle.

11. Remove bottle and clamp assemblies. Apply red silicone tape ETI-B-5006P6-E to the bottle where it was previously marked for the clamp area. This is chafe protector for the bottle where the clamp is wrapped around it.

12. With clamps open and chafe tape on bottle, install bottle. Place bottle on the pad, and tighten clamps around bottle. Have bottle label facing as close to forward as possible keeping in mind that you will have to later install the high pressure lines to the upper fittings. At this point the bottle installation is complete.

13. Put the threaded end of the RCV/RCR valve through the hole in the vertical support and install nut AN924-8D and tighten.

14. Remove access door on baggage compartment floor just aft of rear door. Set ETI-B-5006-10 filler box assembly in opening on baggage compartment floor as shown on drawing ETI-B-5006-11. Install fasteners later.

15. High pressure tubing should have an expansion loop installed prior to connecting to fitting. Wrap a 3 inch loop in tubing then slide B-nut on, slide on cone ferule approximately 1/8 inch, slide on ferule cap, then install assembly into fitting and tighten nut finger tight plus ¼ turn. Perform this same procedure for all high pressure connections.

16. Run length of 3/16 O.D. high pressure tubing (with expansion loop) from fitting on bottle to the high pressure port on RCV/RCR valve. Use procedures in paragraph 15 for the connections. Secure tubing as needed.

17. Run length of 1/8 O.D. high pressure tubing (with expansion loop) from other fitting on bottle to the filler manifold on the bottom of filler box assembly ETI-B-5006-10. Use procedures in paragraph 15 for the connections. Secure tubing as needed.

18. The low pressure user oxygen comes out of the RCV/RCR valve from the low pressure regulator. This regulator has a special hose connector. Insert the right diameter polymer hose into the fitting until the locking mechanism holds the hose in place. This hose can be removed by depressing the collar and pulling hose out.

19. The user ports are installed in the headliner with two ports per manifold threaded into three low pressure manifolds. The low pressure manifolds are installed in the locations shown on drawing 35-1050003. Cut a pair of 7/16 inch holes in the headliner to match the hole locations in each low pressure manifold. Cut holes from the top down. Install the low pressure manifold and user ports with washers as shown in drawing 35-1050003. The manifolds for the front seats and 3rd and 4th seats positioned by finding the center across the air duct attach screws at the front of the headliner. These screws are used to clamp the duct on the headliner to the duct mounted to the top of the forward cabin. Install the user ports running forward and aft approximately at station 97 and butt line 7R and 7L. Keeping in mind that the outcome is for the dual user ports to be aft of the front seats and slightly inboard so as to clear all of seats head rests.

20. Install low pressure tubing into a fitting at the aft of the manifold on the right side and route under the air duct and install loose end into the fitting at the aft end of the left fitting. Install provided plug into the forward end of the right manifold. The headliner is ready to be installed.

21. Install the low pressure tubing into the low pressure fitting at the RCV/RCR valve. Drill a 7/16 inch hole in former 190 at a convenient location, install grommet and pass tubing through hole. Have tubing end where the aft user manifold will be located when the headliner is reinstalled. Cut tubing, leaving enough extra to accomodate installation to the aft manifold once the headliner is in place. Have other loose end in same location that will be installed to the forward end of the manifold when headliner is installed. This length of tubing will run forward through each former, drill 7/16 hole and use grommet as necessary. At the main structural former it will not be necessary to drill holes through the channel. Find the channel doubler in the center. Route tubing so it will lie in the corner of where the doubler and channel meet. Install tubing protector ETI-B-5006P3-Z to protect the tubing from being squeezed by the headliner and secure with tape. End tubing at a location that will be forward of the front left side manifold.

22. Protect all tubing from being squeezed or kinked. When headliner is in place and ready to be installed, install the low pressure tubing to the aft manifold and to the forward manifold. Install headliner.

23. The electrically operated pressure gage can be mounted at the discretion of the installer. The standard gage is a 1.25” diameter gage, but a larger 2.25 gage is available. Just cut the proper size hole in the desired location and install. Using connector ETI-B-5006P6-B to gage, wire according to sheet 2 of drawing 35-1050003.

24. Install on/off switch in a location close to gage and wire accordingly.

25. Install connector ETI-B-5006P6-C to RCV/RCR valve and wire accordingly. Route the multi stand single bundle from RCV/RCR valve, along existing wiring that runs along the left side wall panel. Have forward end connected to the gage connector. Complete the wiring installation per Drawing 35-1050003..

26. Install placards: “Oxygen – No Smoking When In Use” next to each oxygen manifold, “Oxygen Recharge – Max Pressure 1850 PSI” next to filler port, ETI-B-5006P-L1 label over switch

27. After checking all fittings for security, charge system with 1000 psi of aviators breathing oxygen. Allow to set for a while to ensure no leaks. Turn on battery power and visually check that the electric gage reads the same pressure as the mechanical gage. Move switch from off to on, and visually check that the red indicator button on the RCV/RCR valve extends after a few seconds. At this point there should be low pressure oxygen

28. After verifying that everything is operationally correct, continue to charge the system to 1850 psi. Install all required placards. Installation complete.