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Baron & Bonanza Air Conditioning Long Duct Installation Manual

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REVISION HISTORY

REVISION	DESCRIPTION	DATE
A	Initial release, see ECN 19-063	1/20/2020

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EFFECTIVITY

Beechcraft Baron and Bonanza aircraft types where the overhead panel does not have ducting that extends to the rear of the cabin. Reference the following serial numbers…

Baron models 95-55 and 95-A55, serials TC-1 thru TC-501
Baron models 95-B55 and 95-B55A, serials TC-371 thru TC-1402
Baron models 95-C55, serials TE-1 thru TE-451
Baron models D55 and D55A, serials TE-452 thru TE-767
Baron models E55 and E55A, serials TE-768 thru TE-846
Baron model 56TC, serials TG-2 thru TG-83
Baron model A56TC, serials TG-84 thru TG-94
Baron models 58 and 58A, serials TH-1 thru TH-174
Bonanza model 36, serials E-1 thru E-184
Bonanza model A36, serials E-185 thru E-282

PURPOSE

This document provides instructions for the installation of a Kelly Aerospace Thermal Systems (KATS) Air Conditioning System Long Duct headliner for various Baron and Bonanza aircraft serial numbers.

OVERVIEW

For effective aircraft, the overhead panel which feeds the vents in the cabin does not extend to the rear of the cabin where the KATS Evaporator outlet is mounted. In order to deliver conditioned air to the cabin a Long Duct headliner needs to be installed over the existing overhead panel. For these aircraft, the fresh air valve that normally feeds the overhead vents from the NACA is permanently sealed in order for the KATS Air Conditioning System to operate efficiently.

HEADLINER INSTALLATION

A. Remove interior center trim panel and set aside for re-use.

B. Remove the rear ceiling cover over the NACA inlet. Detach and remove the pull cable that actuates the door. Ensure the door is airtight when closed. Seal with RTV Caulk then secure the door in the "closed" position by attaching AC-02032 Inlet Door Bracket with (2) MS35207-262 Screws, (2) AN960-10L Washers and (2) MS21083N3 Nuts to the existing brackets. See Figure 1.

Figure 1 - Seal Vent Door Closed

C. Remove the cover panel just aft of the back seat lights. See Figure 2.

Figure 2 - Panel Removed

D. Remove the overhead console that houses the backseat lights and vents and set aside for re-use. Label the wires for re-use. Remove the speaker cover and set aside for re-use. Disconnect fresh air exhaust, light and speaker and set aside for re-use. Label wires for re-use. See Figure 3.

Figure 3 - Remove Console

E. Remove the map light from the housing. Cut the eyeball vents out of the existing headliner and discard. See Figure 4.

Figure 4 - Remove Map Light and Vents

F. Fit AC-02018 Rear Duct Assembly into the ceiling tracks and against the rear blockoff. Secure the Rear Duct Assembly to the airframe by installing at least (2) 90190A192 Screws into the bulkheads it crosses. See Figure 5.

Figure 5 – Install Rear Duct Assembly

G. Install AC-02023 Forward Duct Assembly by seating it over the forward portion of the overhead console. Run electrical wiring through the grommet in the middle of the Assembly. Attach with a minimum of (2) 90190A192 Screws into a bulkhead. Make additional attachments with 90190A192 Screws into the overhead plastic where necessary. Install (4) 4550-832-S-12 Standoffs at the exhaust port. See Figure 6.

Figure 6 - Install Forward Duct Assembly

H. Install two of the eyeball vents, rear reading lights and light switches from Section D into AC-02027 Forward Duct Assembly with (2) AC-02034 Duct Bezels using (16) MS51959-44 Screws, (16) 98017A625 Washers and (16) AN365-832A Nuts. Install 11-04649 speaker, the exhaust butterfly valve, light and speaker cover. See Figure 7.

Figure 7 - Add Components to Forward Duct Cover Assembly

I. Attach AC-02029 Rear Duct Cover Assembly to the Rear Duct Assembly with (10) MS24693S50 Screws and (10) 04-03901 Washers. See Figure 8.

Figure 8 – Install Rear Duct Cover

J. Seat AC-02027 Forward Duct Cover Assembly into place. Fit AC-02030 Exhaust Sleeve Assembly with 8694K16 Foam as required to create an airtight connection between the exhaust port and the open/close valve. Attach using (6) MS24693S50 Screws and (6) 04-03901 Washers. See Figure 9.

Figure 9 - Install Forward Duct Cover Assembly

K. Remove the front trim piece and fasten the Cover Assembly with (2) MS24693S50 Screws, (2) 04-03901 Washers and (2) 95105A119 Rivet Nuts. See Figure 10.

Figure 10 - Fasten Cover Assembly

L. Cut closeout trim to match the Evaporator inlet. The Registration Envelope may need to be rotated and moved to accommodate ducting. Move as necessary. See Figure 11.

Figure 11 - Trim Closeout

M. Test lighting and speakers. Test Air Conditioning System and check Headliner ducting for leaks. Seal as required. See Figure 12.

Figure 12 - Completed Headliner Installation