Beechcraft

BY TEXTRON AVIATION

Multi-Engine Turboprop Communiqué

Communiqué ME-TP-0033
January 2023

ATA 21 – Introduction of New Environmental System

Effectivity: FL-1300, FL-1307 and after

The Beechcraft King Air 360 has received an update for 2023 with the incorporation of a new environmental system and higher capacity starter generator. The new system consists of an electrically-driven air conditioning compressor and completely new components throughout. The new system replaces the engine-driven air conditioning compressor, reducing maintenance costs. The new system allows pre-cooling of the cabin before boarding as it can be run with engines off when connected to a ground power unit. The new 325-amp starter generator provides greater capacity to support the current draw of the new system.

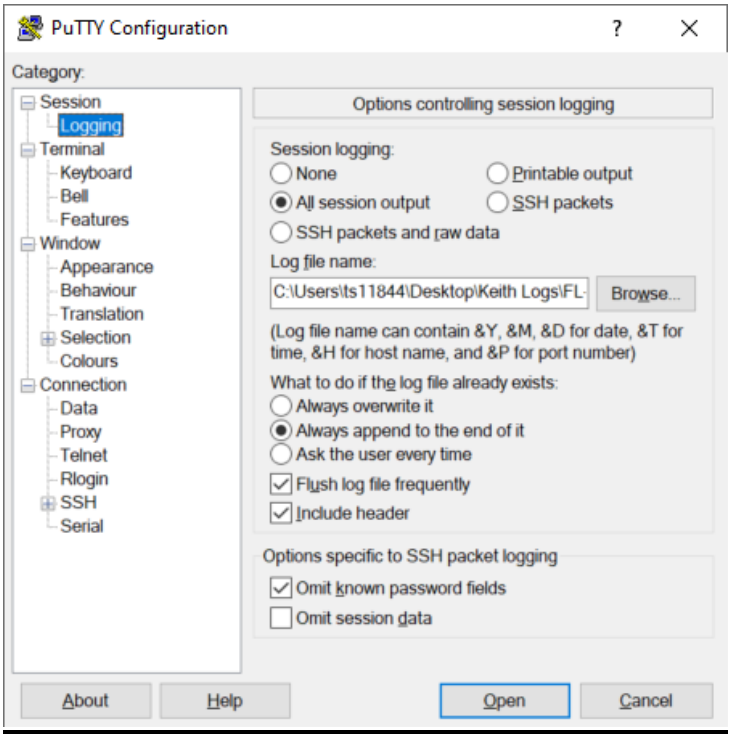
The serial effectivity to the update starts at serial numbers FL-1300, FL-1307 and after. A webinar announcing this system was broadcasted January 11, 2023, and it can be viewed in our Customer Access web page under Past Webinar Presentations. The link to the Customer Access is https://support.cessna.com/custsupt/csupport/newlogin.jsp You will need to register if you have not done so already.

ATA 21 – Keith Controller Data Logging to Text File

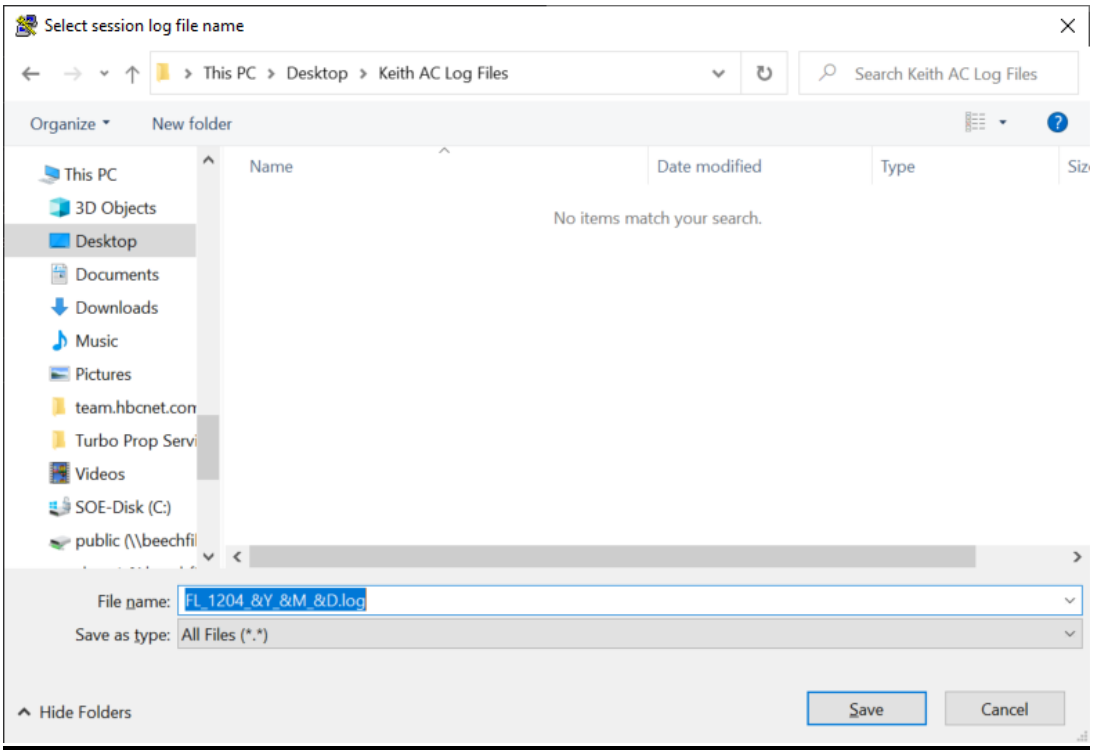
Effectivity: B200/B300 with Keith Environmental Controls System

The PuTTY serial data viewer used for monitoring the Keith Environmental controller can record the serial data to a text log file. Team Turboprop then can decode these text files and plot the data from the controller for the duration of the test. Some minor changes are required to the settings in PuTTY to achieve this logging. The original set up and viewing instructions are contained in ME-TP-0014. Here are the additional settings needed to create text log files.

1. Open PuTTY and select “Logging” from the “Category:” menu.
2. Configure the radio buttons and check boxes to match the entries in the below screen shot.



3. For the “Log file name:” select the “Browse” button to select a location on your computer to save the text log file to.
4. When entering the file name, we recommend using the program's ability to self-insert file date and times. These will keep you from accidentally overwriting a prior file if you do not revisit these settings between tests. The format we use in Technical Support is the airplane serial number followed by “_&Y_&M_&D.log”. In the screenshot below you can see this set up for FL-1204.



5. Select save. Return to the “Session” screen in the “Category:” menu.
6. Proceed to perform remainder of connection in accordance with the instructions in ME-TP-0014.

After you have finished logging the flight, close the PuTTY window. The file is created and written to automatically while PuTTY is running and displaying the controller data.

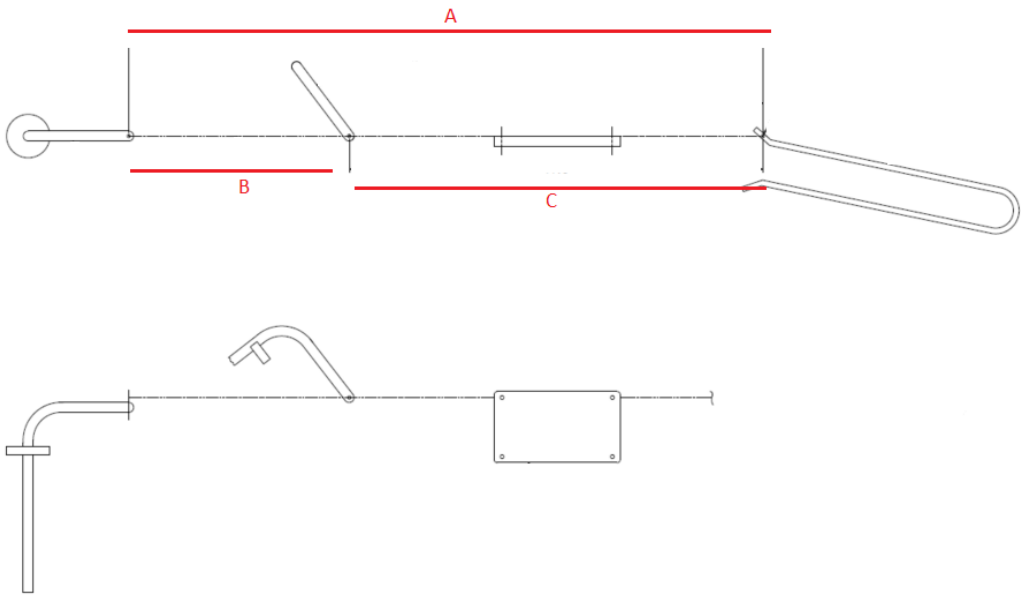
ATA 27 Control Surface Gust Lock Identification

Effectivity: All

The Maintenance Manual for some airplanes and SB 27-3459 for the rest, directs you to make sure you are using the correct gust lock in your airplane. The gust locks do not have part numbers printed on them. We have developed a chart to help identify if the correct gust lock is installed by measuring the sections of chain between the components of the gust lock. The sketch below shows how it should be measured.

Part number	Total Chain Length (A)	Rudder to Column Length (B)	Column to Throttle Length (C)
101-590016-5	43"	28"	15"
101-590016-7	31"	22.5"	8"
101-590016-9	33"	22.5"	9.5"
101-590016-13	37"	25"	11.8"
50-590122-1	46.5"	23.5"	23"
50-590122-21	37.5"	23.5"	14"
50-590122-33	37.5"	23.5"	14"
50-590122-35	37.5"	23.5"	14"
50-590122-37	37"	25.5"	11.5"
50-590122-39	36"	24.5"	11.5"
50-590122-210	Errata - Should be 50-590122-21		

*All length tolerances are ± 1 link



ATA 31 - Proline 21 MDC Data Table Part Numbers
Effectivity: All Proline 21 Equipped King Airs

With the replacement of the Maintenance Data Computer (MDC) in the Proline 21 airplanes, you or Rockwell Collins Support will need to reload the applicable Maintenance Data Table (MDT) file. The below table provides the MDTs factory installed on all the King Airs. Subsequent upgrades or STC may update the MDT on earlier serials to match the improved capabilities of later serials.

MDT PN	Description	Factory Installed Serials
810-0042-010	Non-IFIS	BB-1834, BB-1843 thru BB-1977, BB-1979 thru BB-1987 BT-47 & On BL-148 thru BL-151 BN-10 & On FL-381, FL-383 thru FL-537, FL-540 thru FL-543 FM-12 thru FM-14
810-0042-011	Addition of IFIS	LJ-1847, LJ-1853 thru LJ-2020 BB-1988 thru BB-2018 BL-152 thru BL-169 BY-1 thru BY-118 FM-538, FL-544 thru FL-758 FM-15 thru FM-50
810-0042-012	C90 GTi	Never Used
810-0042-013	WAAS/LPV Capability	LJ-2021 thru LJ-2128 BB-2019 & On BL-170 & On BY-119 thru BY-206, BY-208 thru BY-238, BY-240 thru BY-249 FL-759 thru FL-953, FL-955 thru FL-1009, FL-1011 thru FL-1030 FM-50 thru FM-65

ATA- 34 Navigation- ProLine Fusion Software Upgrade
Effectivity: B200GT; B200CGT; B300; B300C

A new Collins Aerospace Fusion Software level is being delivered on the Beechcraft King Air starting at the following serial numbers: BY-444, BZ-9, FL-1310, FM-109. This software is available as an upgrade to all B200 and B300 Fusion systems. This software contains ATF-3510 V2, which resolves nuisance TAWS Terrain Fail messages described in Collins SIL ATF-3510-19-1. This SIL describes an error with the Forward Looking Terrain Avoidance function that does not affect warning system functions, but does generate a TAWS TERRAIN FAIL CAS message for 3-15 minutes.

Additional TAWS reliability improvements, including enhancements above northern latitudes, are described in Collins Aerospace IDOC 0175-21.

King Air 260/360 airplanes can receive this upgrade by installing the AFD Field Loadable Software Load Set 434-310051-0003 as an approved substitute for their original 434-310051-0001 software. For serial effectivity refer to table 1.

King Air 350i or 250 airplanes with factory-installed Fusion systems can receive the upgrade through Service Bulletins MTB-34-04 and MTB-34-05. For serial effectivity refer to table 1. These airplanes will receive:

- Updated input/output concentrator (IOC)
- Weather radar auto-on inhibit option
- Satellite weather map changes from a ¼ screen display to map format
- Expanded XM satellite weather map to include portions of Canada and Puerto Rico
- Full-time SAT/ISA display on the PFD (RAT is still available on the engine system page)
- Reliability & maintenance reporting improvements
- Additional configuration options for engine and propeller supplemental type certificates
- Configuration option for steep approach supplemental type certifications
- Checklist file compatible with phase 4 software

Additionally, Phase 3 airplanes incorporating MTB-34-04 will have:

- Updated radio interface unit (RIU)
- Provisions for auto throttle, including aural warnings integrated through the Fusion system

Software is available at http://txtavsupport.com through model-specific pages. Service bulletins are available at https://ww2.txtav.com/TechnicalPublications/

Table 1: Field loadable software updates

Serial Numbers	Phase at delivery	Latest available AFD field loadable software set	Path to Phase 4
BY-207, BY-239, BY-250 thru BY-323 BZ-1 FL-954, FL-1010, FL-1031 thru FL-1139 FM-66 thru FM-75	Phase 1 or 2	130M310006-0007	SB 34-4171 (to phase 3), then MTB-34-05
BY-324 thru BY-392 FL-1140 thru FL-1233 FM-76 thru FM-97 Airplanes with factory kits 130-3093 or 130-3090	Phase 3	130M310006-0007	MTB-34-04
BY-393 thru BY-443 BZ-2 thru BZ-8 FL-1234 thru FL-1309 FM-98 thru FM-109	Phase 4 (delivered with 434-310051-0001)	434-310051-0003	434-310051-0003 is an approved substitute for 434-310051-0001
BY-444 & on BZ-9 & on FL-1310 & on FM-109 & on	Phase 4+	434-310051-0003	These airplanes were delivered with 434-310051-0003

ATA 57 – Wing Lower Forward Wing Bolt Removal Procedures

Effectivity: LJ-1085, LJ-1088 and after; LA-226 and after; BB-1158, BB-1167, BB-1193 and after; BL-73 and after; BN-5 and after; BT-31 and after; BY-1 and after; BZ-1 and after; FA-2 and after; FL-1 and after; FM-1 and after

The airplanes listed above have a requirement to inspect the lower forward wing bolt fitting at the intervals established by the Structural Inspection and Repair Manual (SIRM). This inspection procedure requires that the wing bolt be removed to gain access to the fitting surfaces to complete the inspection. There have been reports that this wing bolt will become stuck in place and is difficult to remove. We will discuss the reasons why the bolt can become stuck and suggestions on how to remove the bolt. We will also discuss how to prevent this from happening.

The wing fitting configuration on the lower forward location on these airplanes is the clevis type fitting with five prongs and a wing bolt going through the prongs connecting the center section wing with the outboard wing. It is possible for moisture to ingress between the wing fitting plates and the bushings and onto the wing bolt. This moisture

can lead to corrosion causing the wing bolt to seize inside the bolt bore of the wing fitting. See pictures below as samples as reported by operators.

The other condition would be that the wing bolt becomes “pinched” between the wing fitting prongs, which can happen during normal operation.

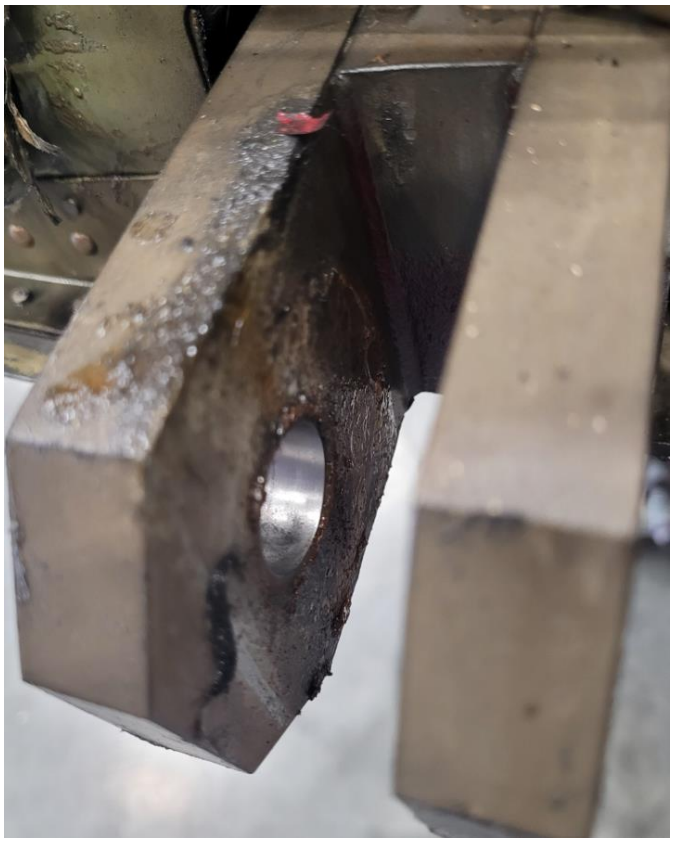
In preparation for the removal of the wing bolt, it is recommended that the area be saturated with penetrating oil, such as mouse milk or something similar. Applying penetrating oil several hours prior to the removal of the bolt can assist in the bolt sliding through. It is important that you use the alignment pin, part number 10996, per the SIRM instructions.

With the wing bolts in the other locations still installed, we can now start with the procedure of removing the lower forward wing bolt. Light taps with a hammer using the alignment pin should be enough to get the bolt moving. If that does not result with the bolt sliding out, you can use a wrench on the bolt head and apply rotation inputs while the tapping with the hammer continues. Stubborn wing bolts may require more drastic measures such as the use of a powerful rivet gun. A 9X rivet gun, like the one shown below, and a “mushroom” aluminum rivet gun head has been required in the past to remove a stubborn wing bolt. Extreme care must be exercised while using this gun so that it does not slip causing damage to wing structure.

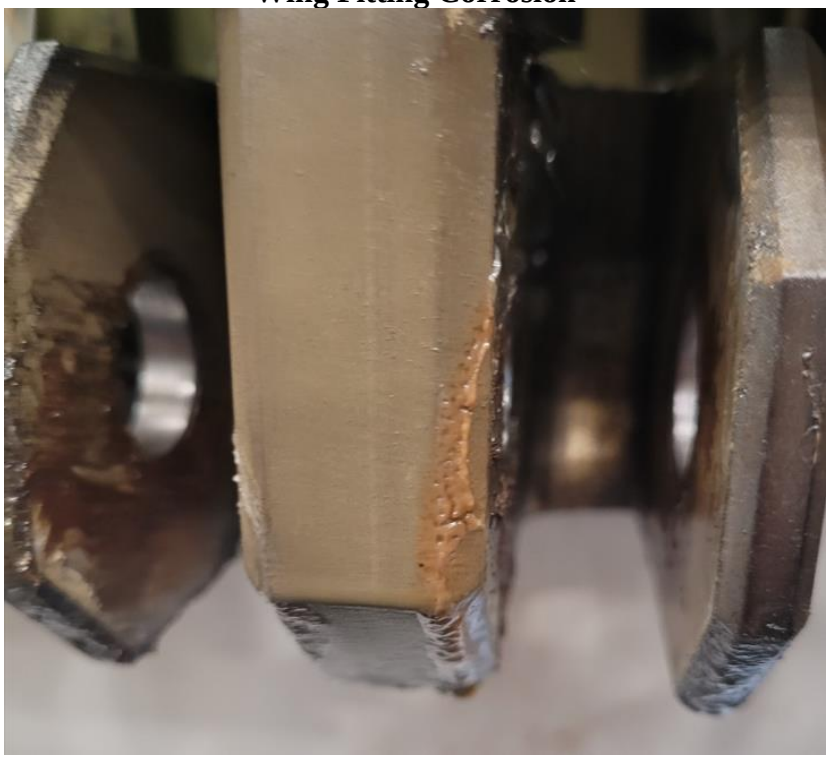
Another technique used is to find a way to “unload” the wing by applying light force to the underside of the wing using modified cradles as shown in the pictures below. The padded areas of the cradles are aligned along the main spar, carefully jacking the cradles up and down along the spar may help in finding the “happy spot” where the wing bolt would be free. This method can also be used for the second condition, described above, where we suspect that the wing bolt is ”pinched” between the wing fitting lobes. However, in the case where we suspect that the bolt is pinched, we may also want to loosen the other wing bolts to be able to align the wing bolt lobes, so the bolt is free to move. Removing or loosening the other wing bolts will require that the wing is supported further.

One measure of prevention against this from occurring again is to saturate the area with the corrosion preventive material called out in the SIRM during reassembly.

Extreme care must be taken to prevent damage to the bushings inside the lobes. Damage to these bushing will require a visit from personnel from our Textron Aviation Service Center out of Wichita, Kansas, since the replacement of the bushings requires special equipment and training.



Wing Fitting Corrosion



Corroded Wing Bolt

Rivet Gun Heads

9X Power Rivet Gun

Modified Jacks to Support the Wing

Alingment Pin P/N 10996