Beechcraft

BY TEXTRON AVIATION

Multi-Engine Turboprop Communiqué

Communiqué ME-TP-0036
May 2024

ATA 00 – King Air Component Maintenance Manual Changes

Effectivity: All

In an effort to provide consistency between the Textron Aviation model libraries and ensure the latest engineering approved supplier manual revisions are being utilized, the Supplier Component Maintenance Manuals will be removed from the King Air maintenance libraries. This update will go into effect during the Q2 library releases for all current and out of production King Airs.

The Textron Aviation owned Component Maintenance Manuals will remain part of the King Air maintenance libraries and will be located in the Beech King Air Component Manual (P/N 101-590097-13). These manuals have been converted from a scanned PDF to the standard 1View format, improving legibility and searching capability. This format also allows for improved content layout, enhanced Publication Change Request (PCR) functionality, and a streamlines parts list navigation for order list capability.

Supplier-owned Component Maintenance Manuals that were removed from the King Air CMM library will be available through the Technical Manual Distribution Center (TMDC) at no charge until April 2025.

ATA 27 – Flap Fail Indications

Effectivity: BY-393 and after; BZ-2 and after; FL-1234 and after; FM-98 and after

The new 260/360 King Air airplanes have removed the original analog flap indication and replaced it with a digital indication on the MFD. The original flap indication system only outputs the data from the position sender. The new digital indication allows the display to visually show the data from the RVDT position sensors, and position of the flap handle itself. In the event of a FLAPS FAIL CAS message, the display can help you narrow down the failure condition.

Normal Operation
The cyan pointer corresponds to the position of the selector handle and the green pointer corresponds to the position of the flaps.

Position Mis-compare or Asymmetric Flaps
If there is a mis-compare of the handle position and the flap or if a flap asymmetry is detected, then the flap pointer will turn yellow, and a yellow XXX will appear.

Possible faults are the flaps are physically not in the correct angle range for the selected position, the 3 discrete inputs for handle position are valid but incorrect or the RH RVDT data is not correctly showing the angle of the flap.

Invalid Handle Position
If the system is not getting any valid handle position the cyan pointer will disappear and the display will turn yellow. The pointer will continue to show the flap position based on the RVDT input.

Fault is a loss of or mismatch of the 3 discrete handle position signals.

Loss of Both RVDT Signals
If no valid RVDT signals are present, then the flap pointer is removed and displays yellow XXX.

Fault is a failure of both RVDTs or wiring issues which have impacted the signal from the RVDTs to the #1 and #2 RDCs.

Loss of single RVDT or RVDT Mis-compare
In the case that only one RVDT signal is lost or a mismatch of more than three degrees between the RVDTs occurs, the system will not alter the crew display but will provide a "Check Maintenance" CAS message once on the ground and below 10 knots ground speed.

This message is not specific to flaps and so if the fault is read as flap related the most likely culprit is a bad RVDT.

For troubleshooting it is recommended to utilize the MFD's capabilities to view the RVDT signals and the handle and asymmetry switches discrete inputs directly.

To read RVDT outputs as degrees of flap travel, install the shorting plug in the 37pin D sub maintenance port at the aft end of the pedestal. The MFD's "Summary Page" will now display the RVDT position in degrees. This can then be directly compared to a protractor/angle finder at the flaps themselves. This will only appear when on the ground with the shorting plug installed.

The discrete inputs for asymmetry and handle position can be viewed on the MFD in a manner similar to the procedure for Digital Pressurization CAS Message Functional Check.

Check Procedure
1) On the MFD Maintenance Menu, select “LRU Operations.”
2) On the LRU Operations page, in the “View” drop down select “Real-time Data”.
3) For the “ATA” drop down select 31 and then select the correct discrete range for the pins to check.

Switch Pins
LH Asymmetry Switch – RDC#1 Pin 59 will be 28V and RDC#2 Pin 59 will be open or 0V when LH asymmetry is detected.

RH Asymmetry Switch – RDC#1 Pin 59 will be open or 0V. when RH asymmetry is detected. RDC#2 Pin 59 should also be 0V.

Flap Handle Up Position – DCU#1 and DCU Pin 65 will be 28V in the “UP” position and 0V in “APP” and “DOWN”.

Flap Handle Approach Position – DCU#1 and DCU#2 Pin 75 will be 28V in the “APP” position and open or 0V in “UP” and “DOWN”.

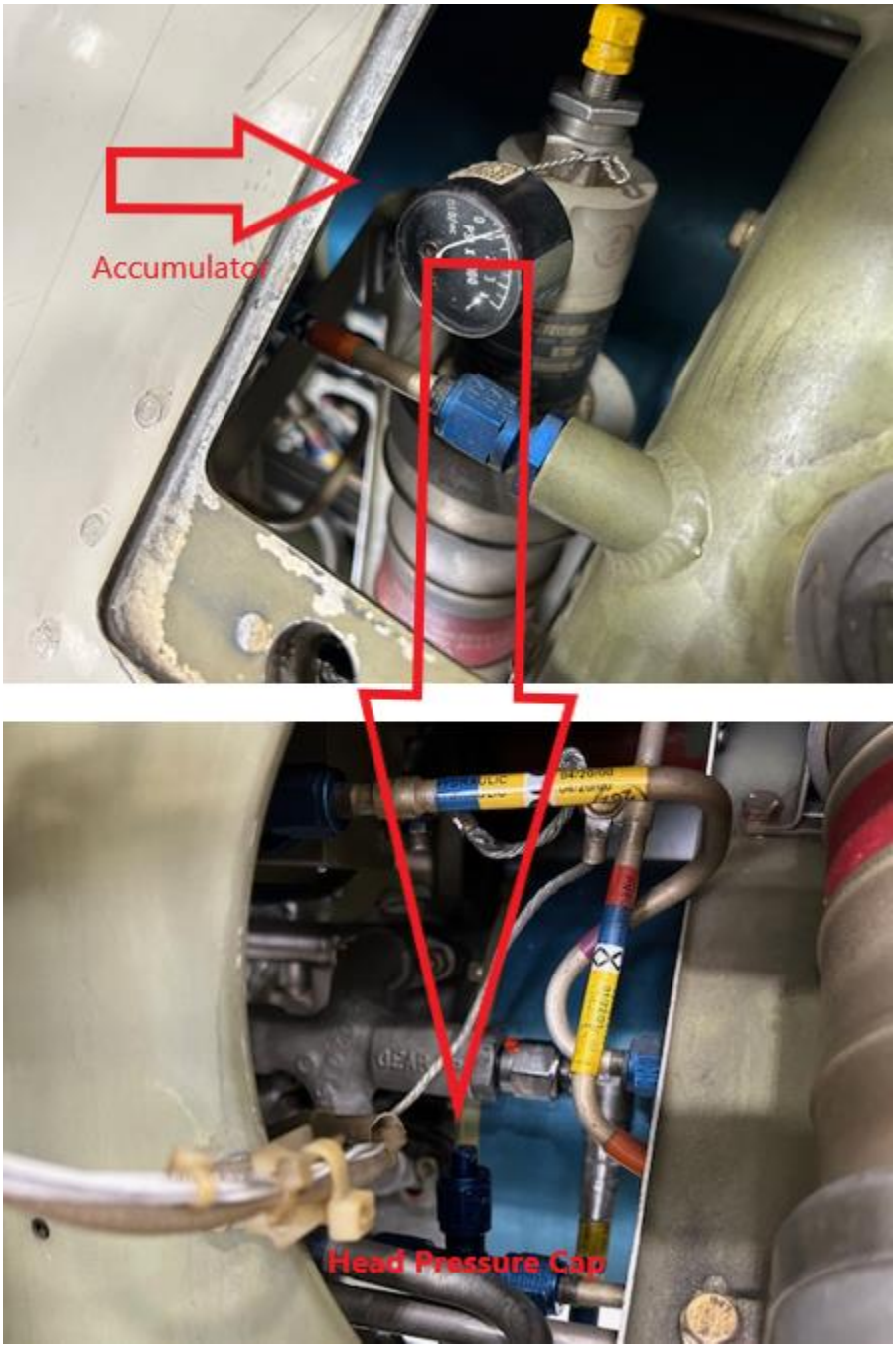
Flap Handle Down Position – DCU#1 and DCU#2 Pin 24 will be 28V in the “DOWN” position and open or 0V in “UP” and “APP”.

ATA 32 – Hydraulic Landing Gear Reservoir Head Pressure Connection

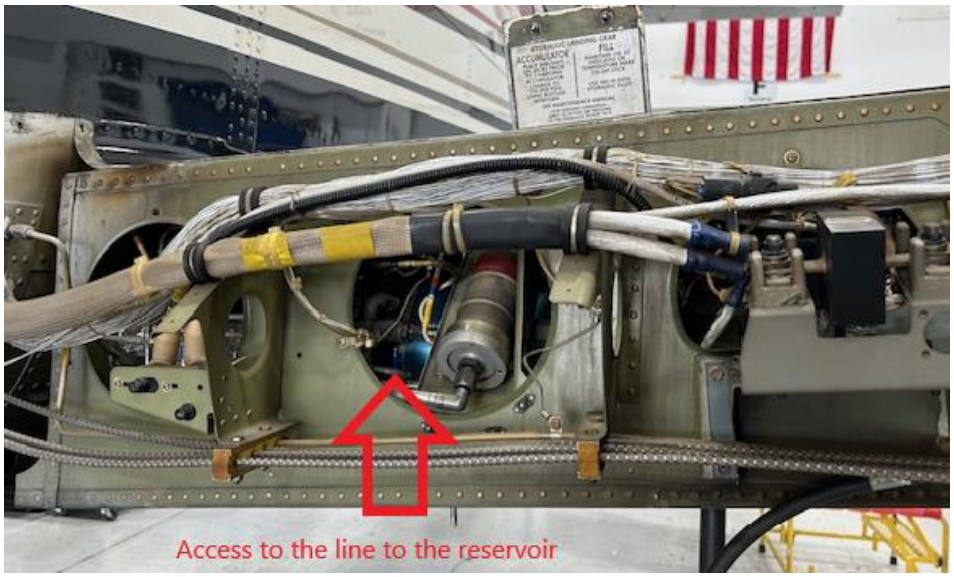
Effectivity: Airplanes equipped with Hydraulic Landing Gear

Landing gear maintenance or troubleshooting sometimes requires operating the landing gear while on jacks in the hangar. The maintenance manual calls to provide head pressure of 18 psi to the hydraulic reservoir to prevent the hydraulic landing gear pump from cavitating. The pictures below show where you can directly apply this pressure to the reservoir. Alternatively, you can apply this pressure using the pneumatic system, see ATA 36 in this communiqué.

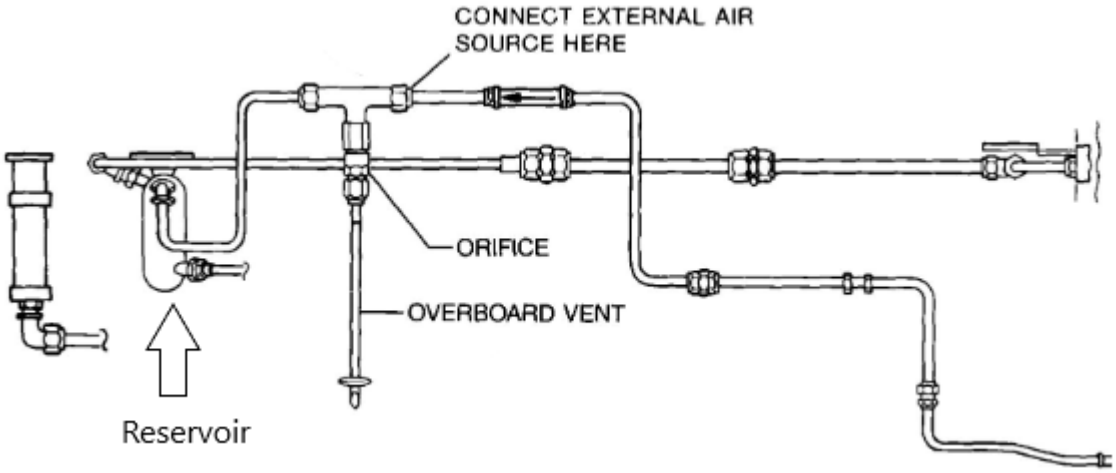
Picture 1 below shows where to connect air pressure to the line to the reservoir to apply the head pressure, however this line is very difficult to get to without removing the leading edge. Picture 2 show the area with the leading edge removed allowing easier access to this line.



1. Cap for the Line to the Reservoir



2. Access to the reservoir head pressure line, leading edge removed



Left Center Section Leading Edge
King Air C90A/F90-1

ATA 35 - Inspection Requirements for Oxygen Cylinders Found Empty Before Hydrostatic Testing is Due

Effectivity: All

Technical Support receives inquiries about whether hydrostatic testing is required before returning an empty oxygen cylinder to service.

This condition is not addressed in the DOT qualification regulations for pressurized cylinders, 49 CFR 180.205. The industry recommendations are to send the cylinder to an overhaul shop for inspection due to risk of moisture contamination entering the cylinder when it is empty.

Aerospace Information Report AIR1059, Oxygen Cylinder Quality, Serviceability, Maintenance Transfilling, and Marking provides guidance for cylinder maintenance, including cylinders emptied before requalification is due:

> Internal inspection, cleaning and drying of cylinders shall be accomplished whenever a cylinder has been completely emptied and the valve left open with questionable exposure or due to the presence of odors or moisture. It is recommended that these procedures be performed by a DOT qualified retest station with the facilities and equipment to effectively perform these tasks or by following the information contained in the equipment manufacturer's Component Maintenance Manual (CMM).

ATA 36 – Operating the Pneumatic/Vacuum System with Engines Off

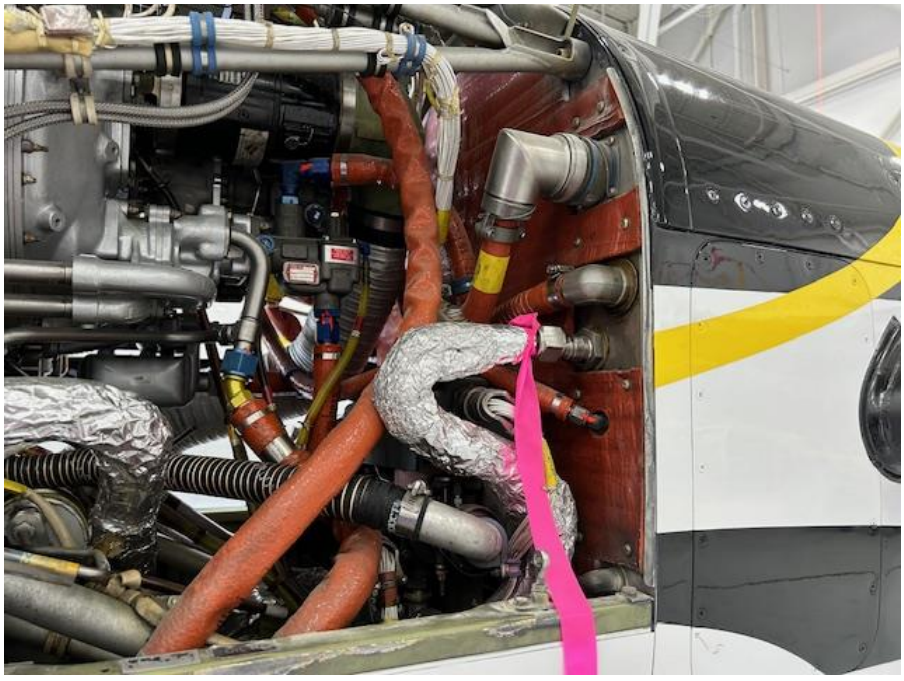
Effectivity: All

There are times when operating the pneumatic system is required for troubleshooting purposes or operational systems checks, such as checking the de-ice boots operation, retracting the landing gear (refer to ATA 32 in this communiqué), bleed air warning, etc. Shop air can be used to activate the pneumatic system while the airplane is in the hangar. This can be done by connecting shop air to the engine firewall pneumatic fittings shown in the pictures below. We have also included a picture of a shop fabricated tool used for this purpose as an example for you to fabricate your own.

The pictures below show two locations where the shop air can be introduced to the pneumatic system. Most shop air system in hangars are set to 100 psi or so. This pressure is acceptable as it is approximately what the engine's bleed air system produces. The airplane pneumatic regulator brings the pressure down to the proper operating pressures for the systems that use pneumatics and vacuum in the airplane.

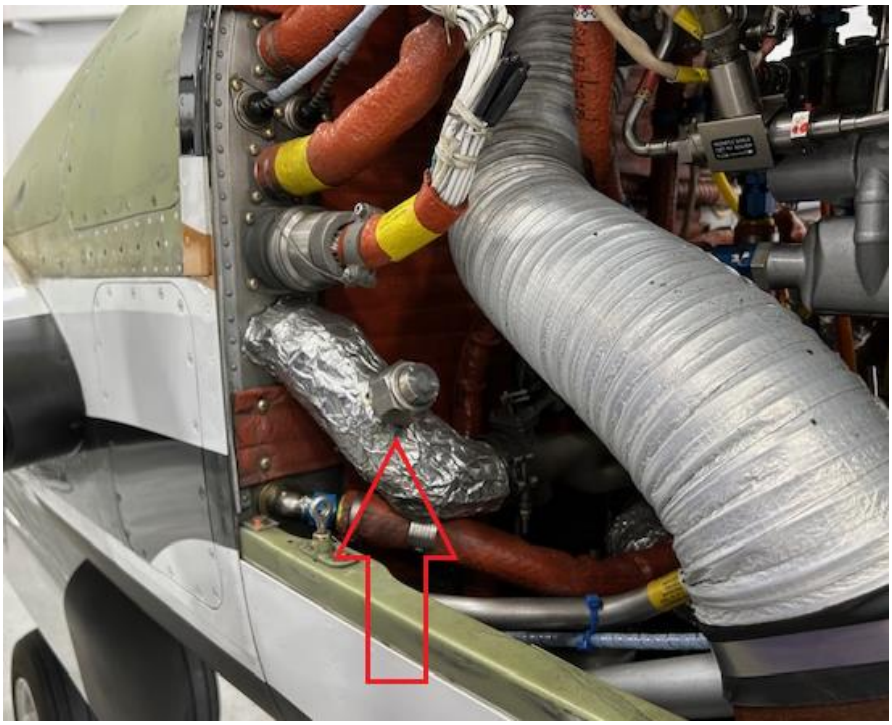
NOTE: Always flag or mark any disconnected lines from engine.

Shop Made Tool



Line from the Flow Pack to the Firewall Shown by Pink Flag
Models B200/300/B300

Line from “Y” from Engine Bleed Air Take-Off to Firewall
Models B200/300/B300



Line from Flow Pack Pneumatic System Port
Models B200/300/B300

ATA 55 – Vertical Stabilizer Aft Spar Angle Corrosion and Replacement
Effectivity: F90. B200, 300, B300 Series

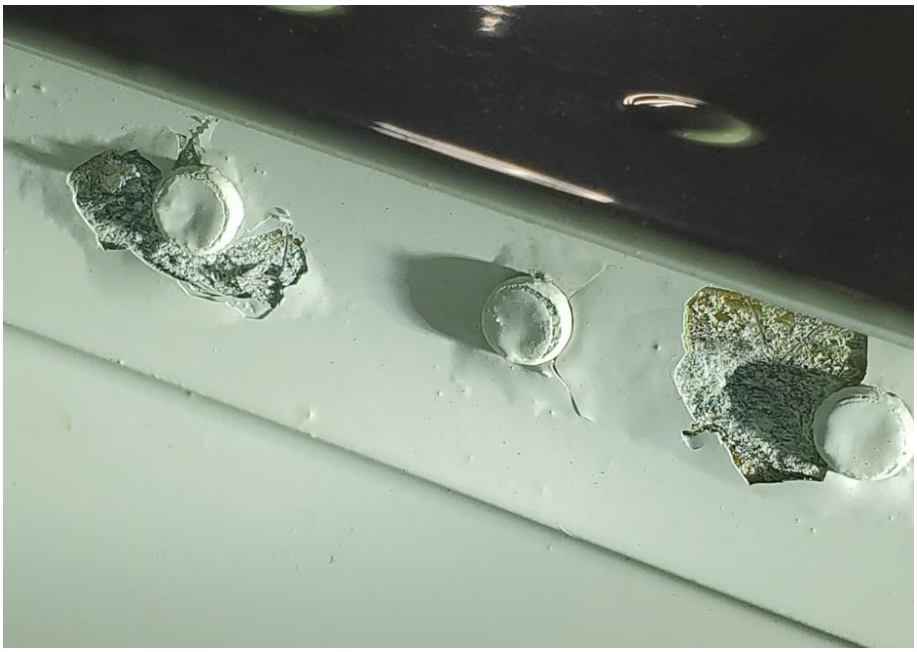
The King Air Inspection Program calls for the inspection of vertical and horizontal stabilizer aft spars. This article is focused on the vertical stabilizer aft spar, for additional information regarding the horizontal stabilizers, refer to King Air Communiqués ME-TP-0022 and ME-TP-0025.

The pictures below show what is typically being found on the vertical stabilizer spar. In the same area, corrosion on the rudder hinge plates and associated hardware has also been found. Some of this corrosion is sufficient enough that the affected components have to be replaced.

The replacement of the vertical stabilizer spar angles requires the stabilizer assembly to be supported to prevent any shifting of the structure. Questions have been asked as to how to support the assembly. The picture below is one example on how the assembly can be supported. The part numbers of the two angles are 101-640010-9 for the RH and -10 for the LH. The hardware used for the installation of the angles is combination of:

NAS1436 pins/NAS1080C06
NAS1466/NAS1080C06
NAS1466/NAS1080R06
MS20426AD5
MS20420AD6
MS20470AD5.

It is recommended that you take note of the fasteners installed before they are removed.



Angle Corrosion Example

Hinge Corrosion Example

Stabilizer Support