



U.S. Department
of Transportation

Federal
Aviation
Administration

Airworthiness Concern Sheet

Date: August 3, 2026

Reply to: Name: David Bae Title: Aviation Safety Engineer (Airframe) Office: East Certification Branch Street Address: 1701 Columbia Ave City, State, ZIP: College Park, GA 30337 Telephone: 404-863-2604 Electronic Mail: David.H.Bae@faa.gov	Make: Twin Commander Model / Serial Numbers: All serial numbers for – 500, 500A, 500B, 500S, 500U – 520 – 560, 560A, 560E, 560F – 680, 680E, 680F, 680F(P), 680FL, 680FL(P), 680T, 680V, 680W – 681 – 685 – 690, 690A, 690B, 690C, 690D – 695, 695A, 695B – 720 Reason for Airworthiness Concern: Lower Wing Skin Cracking
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Federal Aviation Administration (FAA) Description of Airworthiness Concern

Twin Commander Aircraft LLC (Twin Commander) issued [Maintenance Alert MA23001](#) on July 24, 2023 following two reports of cracks initiating at the radii of the lower wing skin cutouts for the main landing gear truss. These cracks were initially discovered on piston-powered aircraft conducting low-level surveys. There is a concern that such cracks might go undetected during routine maintenance, leading to continued cracking and reduction in wing residual strength. Maintenance Alert MA23001 recommends a recurring visual inspection, supplemented by either a high frequency eddy current inspection or a liquid penetrant inspection, of the skin cut-out area to detect any cracks within six months and annually thereafter. Since the issuance of MA23001, additional aircraft including turboprop models have been identified with similar lower wing skin cracking.

Additionally, the Commonwealth of Australia Civil Aviation Safety Authority (CASA) issued Airworthiness Directive [AD/AC/92 - Wing Skin Near Main Landing Gear](#). The FAA determined that an AD was not necessary at the time CASA issued its AD.

This Airworthiness Directive mandates that Australian operators perform a recurring, visual inspection for cracks on the wing skin near the main landing gear every 1,000 hours or less, or every 500 hours or less when the aircraft is engaged in low-level survey flights. This Airworthiness Directive was based on reports of cracks found in cutouts on the lower surface of the wing in two aircraft, both of which were 500S models performing low-level surveys.

Request for Information

The FAA is interested in receiving any information on wing skin cracks at the MLG truss cut outs from owners, operators, mechanics, and maintenance personnel of the listed models of Twin Commander listed in the effectivity of this Airworthiness Concern Sheet (ACS). We recommend operators inspect these areas per Maintenance Alert MA23001 and provide information including:

- Aircraft registration and serial number
- Aircraft flight hours and flight hours at time of inspection
- Usage related to the aircraft's industry sector and/or Public Use operations (e.g., low level survey, firefighting, medevac, agriculture, scenic flights, Department of the Interior, US Forest Service, etc.)
- Any positive or negative findings of wing skin crack length and location/orientation
- Available photos of crack findings
- Inspection methods utilized to locate the crack

Please provide any other information you feel may be helpful for us to consider as part of our evaluation. Please also provide a report of no findings if the inspection was completed and no cracks were found

This Airworthiness Concern Sheet (ACS) is intended as a means for FAA Aviation Safety Engineers to coordinate airworthiness concerns with aircraft owners/operators through associations and type clubs. At this time, the FAA has not made a determination on what type of corrective action (if any) should be taken. The resolution of this airworthiness concern could involve Airworthiness Directive (AD) action or a Special Airworthiness Information Bulletin (SAIB), or the FAA could determine that no action is needed at this time. The FAA's final determination will depend in part on the information received in response to this ACS.

The FAA endorses dissemination of this technical information to all manufacturers and requests association and type club comments.

Attachments:

- ☐ Service Difficulty Report
- ☐ Accident/Incident Data System
- ☒ Service Letter / Bulletin
- ☐ Special Airworthiness Information Bulletin
- ☐ Federal Aviation Administration or National Transportation Safety Board Safety Recommendation
- ☐ Airworthiness Directive
- ☐ Alternate Means of Compliance
- ☐ Risk Analysis

Transmittal:

- ☒ Federal Aviation Administration
- ☒ Airplane Owners and Pilots Association
- ☐ Experimental Aircraft Association
- ☒ Type Club
- ☒ Type Certificate Holder
- ☐ Other:

Response Requested By:

- ☐ Emergency (10 days)
- ☐ Alert (30 days)
- ☒ Information (90 days)



Twin Commander Aircraft, LLC

Maintenance Alert

24 JULY 23

Ref MA23001

SUBJECT: INSPECTION FOR CRACKS IN LOWER WING SKINS AROUND MLG TRUSS CUTOUTS.

EFFECTIVITY:

520, 560/A/E/F, 500/A/B/S/U, 680/E/F/FL/FLP/T/V/W	ALL
681, 685, 690/A/B/C/D, 695/A/B	ALL

REASON FOR PUBLICATION: Two reports from the field noted small cracks extending forward and aft from the radii of the lower wing skin cutouts in each nacelle for the FWD portion of the MLG Truss. This Alert is to highly recommend detail visual inspection and either high frequency eddy current inspection (HFEC), or liquid penetrant inspection (LPI) of the lower wing skin at the FWD cutout areas, and to request feedback post inspection to help Twin Commander Aircraft in determining the prevalence of cracks in these locations.

BY WHOM WORK SHALL BE ACCOMPLISHED

FAA A&P Certificated Mechanic or FAA Repair Station

Inspectors shall be certified to a minimum of Level 2 in Eddy Current and Liquid Penetrant inspection in accordance with NAS410 (latest edition).

WHEN WORK SHALL BE ACCOMPLISHED

In the next 6 months after the release date of this document and once per year thereafter.

INSTRUCTIONS:

1. Support wings and tail of aircraft per applicable AMM.
2. Gain access to the upper and lower wing skin surface around the FWD and AFT radii of each cutout. The following suggestions may aid access.
 - a. Removal of the oil tank located in the nacelle structure may expedite access depending on aircraft model. Remove per applicable maintenance manual instructions. Lift or remove, if present, the wing compartment lining from the bottom skin. Clean debris away to enable a visual inspection for cracks around the cutouts.
 - b. Removal of the lower wing access door inside the nacelle may also aid in accessing the cutouts (Figure 1).
3. If cutouts are filled with sealant, carefully remove sealant, using plastic scraper and tools, around FWD and AFT radii of cutout to gain access to edge of cutouts. Clean area and edges of skins.
4. Visually inspect the cutout area for cracks using good light (min 100fc). If possible, take photos of noticeable cracks and include these photos with your compliance card, which can be mailed or emailed to the address shown. See Figure 2 for typical crack locations.

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Inspection For Cracks In Lower Wing Skins Around MLG Truss Cutouts

Note at the nacelle location, the inboard and outboard skin planks overlap each other, so both skins are to be inspected.

5. In addition, perform either,
 - 1) HFEC inspection of the cutout radii following the procedure laid out below,
 - a. HFEC Procedure: Perform High Frequency Eddy Current, on the lower wing skin – both inner and outer skins, and around the entire cutout edge, at the FWD MLG Truss cutouts (see Figure 1). Min detectible flaw length is 0.050” long. Skin alloy is Aluminum Alloy 2000 Series.

OR

- 2) Liquid Penetrant Inspection (LPI) per ASTM E1417 the inner and outer skin surfaces, for cracks. For LPI, the skin surfaces must be stripped of surface finish. Acceptance Criteria per MIL-STD-1907, Grade A.
6. If cracks are found, contact Twin Commander Aircraft, LLC at the address below, and report findings on compliance card.

Twin Commander Aircraft, LLC.
1176 Telecom Dr., Creedmoor, NC 27522
Phone (919) 956-4300
info@twincommander.com

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Inspection For Cracks In Lower Wing Skins Around MLG Truss Cutouts

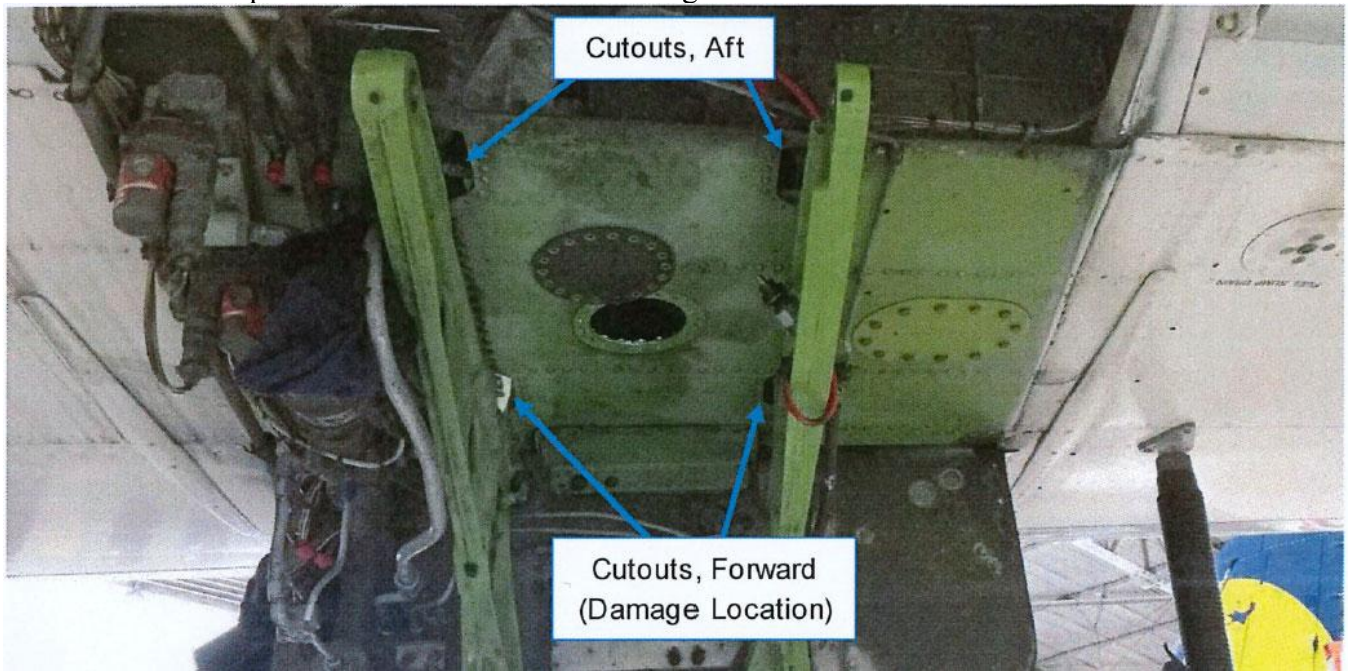


Figure 1, View looking forward and slightly up.

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Inspection For Cracks In Lower Wing Skins Around MLG Truss Cutouts

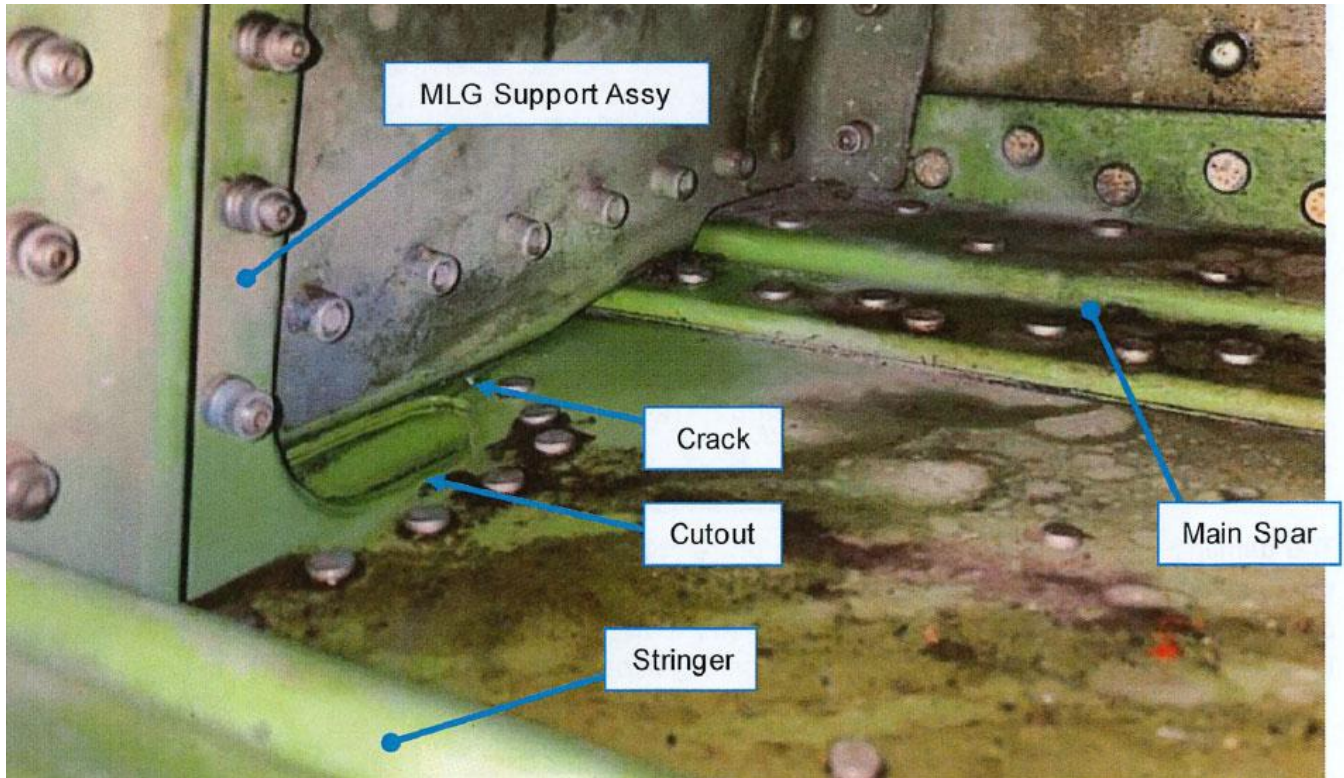


Figure 2. View inside the nacelle, looking forward and slightly down (crack propagating forward of FWD cutout radius towards front spar).

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COMPLIANCE CARD

Inspection For Cracks in Wing Skins Around MLG Truss Cutouts

Please fill in the requested information and mail this card to Twin Commander at the address on the other side, fax it to 919-682-3786, or email it to info@twincommander.com

AIRCRAFT MODEL _____ SERIAL NUMBER _____

AIRCRAFT REGISTRATION _____ TOTAL TIME _____ (HOURS)

OWNER'S NAME AND ADDRESS: _____

TELEPHONE: _____ FAX: _____

EMAIL ADDRESS: _____

COMMENTS: _____

INSPECTION RESULTS

	left wing skin cutouts		right wing skin cutouts	
	OTBD	INBD	OTBD	INBD
Yes	_____	_____	_____	_____
QTY	_____	_____	_____	_____
No	_____	_____	_____	_____
Length, shortest	_____	_____	_____	_____
Length, longest	_____	_____	_____	_____

WORK PERFORMED BY (NAME, COMPANY NAME, AND ADDRESS):

TELEPHONE: _____ EMAIL: _____

DATE: _____ SIGNATURE: _____

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Inspection For Cracks In Lower Wing Skins Around MLG Truss Cutouts



NO POSTAGE
NECESSARY
IF MAILED
IN THE
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BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 1 CREEDMOOR NC

POSTAGE WILL BE PAID BY ADDRESSEE

Twin Commander Aircraft LLC
1176 Telecom Dr
Creedmoor NC 27522-9912

