TITLE

NAVIGATION - TRANSMITTAL OF COLLINS AEROSPACE SERVICE BULLETIN ATL-4000-34-D, NAVIGATION - ALT-4000 - EVALUATION OF SURFACE MOUNT FERRITE BEAD USED ON THE POWER SUPPLY

EFFECTIVITY

MODEL	SERIAL NUMBERS
C90GTi	LJ-2172 thru LJ-2175, LJ-2177 thru LJ-2179
B200GT	BY-378 thru BY-381, BY-384 thru BY-387
B200CGT	BZ-2
B300	FL-1216, FL-1218 thru FL-1229, FL-1231 thru FL-1243
B300/B300C	FM-85 thru FM-92

REASON

There have been multiple instances where a ALT-4000 Radio Altimeter (RADALT) has reported an altitude of approximately 1400 feet instead of No Computed Data (NCD) while above 2600 feet. It has been determined that faulty ferrite beads on the power supply assembly of the RADALT are the cause of the issue.

DESCRIPTION

This service letter transmits Collins Aerospace service bulletin ATL-4000-34-D, Navigation - ALT-4000 - Evaluation Of Surface Mount Ferrite Bead Used on the Power Supply.

COMPLIANCE

RECOMMENDED. This service document should be accomplished at a scheduled maintenance period or inspection.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

1) The mechanic must complete all of the instructions in the service document, including the intent therein.
2) The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
3) The mechanic or airplane owner must use the technical data in the service document only as approved and published.
4) The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the *Effectivity* section of the document.
5) The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

No individual or corporate organization other than Textron Aviation is authorized to make or apply any changes to a Textron Aviation-issued service document or flight manual supplement without prior written consent from Textron Aviation.

Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277, U.S.A. 1-316-517-5800

Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

CONSUMABLE MATERIAL

No specialized consumable materials are required to complete this service document.

TOOLING

No specialized tooling is required to complete this service document.

REFERENCES

Collins Aerospace service bulletin ATL-4000-34-D Initial Release (or latest revision).

King Air 90 Series Maintenance Manual

Super King Air B200GT/B200CGT Fusion Maintenance Manual

Super King Air B300/B300C Fusion Maintenance Manual

PUBLICATIONS AFFECTED

None

ACCOMPLISHMENT INSTRUCTIONS

1. Review the attached Collins Aerospace Service Bulletin ALT-4000-34-D for applicability.

2. Return the existing 822-0615-002, 822-0615-202, or 822-0615-206 Altimeter (ALT-4000) to Textron Aviation for exchange.

   NOTE: The existing 822-0615-002, 822-0615-202, or 822-0615-206 Altimeter (ALT-4000) may be returned to Textron Aviation Parts Distribution, Warranty Administration, 285 South Greenwich Road, Bldg B89, Docks 1-4, Wichita, KS 67206, USA, and exchanged for an upgraded unit. Due to limited availability, advance scheduling is required, please expedite the return of the removed part.

   NOTE: The 822-0615-002, 822-0615-202, have been superseded by 822-0615-206. Return the 822-0615-002, 822-0615-202 and order the 822-0615-206.

3. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

   NOTE: Textron Aviation recommends that compliance with all service documents is reported to a maintenance tracking system provider.
   - Complete a record of compliance. (Maintenance Transaction Report, Log Book Entry, or other record of compliance.)
   - Put a copy of the completed record of compliance in the airplane logbook.
   - Send a copy of the completed record of compliance to the maintenance tracking system provider used.

MATERIAL INFORMATION

Order the applicable part below to install this modification.

NEW P/N	QUAN-TITY	KEY WORD	OLD P/N	INSTRUCTIONS/ DISPOSITION
822-0615-206	1	Altimiter (ALT-4000)	Same	Exchange

NOTE: The 822-0615-002, 822-0615-202, have been superseded by 822-0615-206. Return the 822-0615-002, 822-0615-202 and order the 822-0615-206.

The existing 822-0615-002, 822-0615-202, or 822-0615-206 Altimeter (ALT-4000) may be returned to Textron Aviation Parts Distribution, Warranty Administration, 285 South Greenwich Road, Bldg B89, Docks 1-4, Wichita, KS 67206, USA, and exchanged for an upgraded unit. Due to limited availability, advance scheduling is required, please expedite the return of the removed part.

* Please contact your Regional Textron Aviation Parts Distribution Customer Support Team for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International).

For more information, please visit the TAPD Support & Aftermarket Account Management website at https://ww2.txtav.com/Parts/Promos/TAPD.

In cases where the required part(s) are approved as exchange, order the exchange part and, upon completion, expedite the return of the removed part to avoid return penalties. Contact the Textron Aviation Parts Distribution Sales Desk for availability of exchange parts.

TITLE

NAVIGATION - TRANSMITTAL OF COLLINS AEROSPACE SERVICE BULLETIN ATL-4000-34-D, NAVIGATION - ALT-4000 - EVALUATION OF SURFACE MOUNT FERRITE BEAD USED ON THE POWER SUPPLY

TO:

Beecraft Model 90, B200GT, B200CGT, and B300/B300C Aircraft Owner

REASON

There have been multiple instances where a ALT-4000 Radio Altimeter (RADALT) has reported an altitude of approximately 1400 feet instead of No Computed Data (NCD) while above 2600 feet. It has been determined that faulty ferrite beads on the power supply assembly of the RADALT are the cause of the issue.

COMPLIANCE

RECOMMENDED. This service document should be accomplished at a scheduled maintenance period or inspection.

LABOR HOURS

Refer to the Manpower section of the Collins Aerospace service bulletin ATL-4000-34-D Initial Release (or latest revision).

MATERIAL AVAILABILITY

PART NUMBER	AVAILABILITY	COST
822-0615-206CARE	*	*

NOTE: The 822-0615-002, 822-0615-202, have been superseded by 822-0615-206. Return the 822-0615-002, 822-0615-202 and order the 822-0615-206CARE.

* Please contact your Regional Textron Aviation Parts Distribution Customer Support Team for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International).

For more information, please visit the TAPD Support & Aftermarket Account Management website at https://ww2.txtav.com/Parts/Promos/TAPD.

In cases where the required part(s) are approved as exchange, order the exchange part and, upon completion, expedite the return of the removed part to avoid return penalties. Contact the Textron Aviation Parts Distribution Sales Desk for availability of exchange parts.

WARRANTY

Refer to the Material Information section of the Collins Aerospace service bulletin ATL-4000-34-D Initial Release (or latest revision) for information on warranty coverage and expiration.

Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277, U.S.A. 1-316-517-5800

Collins Aerospace

SERVICE BULLETIN

SUBJECT: NAVIGATION - ALT-4000 - EVALUATION OF SURFACE MOUNT FERRITE BEAD USED ON THE POWER SUPPLY (SUPERSEDES ALT-4000-34-C, 523-0831894)

TRANSMITTAL INFORMATION SUMMARY

SUMMARY

This is the initial release of Service Bulletin (SB) ALT-4000-34-D for the ALT-1000 and ALT-4000 Altimeter.

NOTE: Refer to Section 1.A. for effectivity.

SERVICE BULLETIN REVISION HISTORY

REVISION	DATE OF RELEASE
Initial Release	March 5, 2021

NOTE: This service bulletin supersedes Service Bulletin ALT-4000-34-C, 523-0831894.

NOTE: This service bulletin may be installed only by a Collins Aerospace representative or an authorized Collins Aerospace Service Center.

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1. Planning Information

A. Effectivity

The modification procedure described in this service bulletin is applicable to the ALT-1000 and ALT-4000 Altimeter listed in the following table.

UNIT	COLLINS AEROSPACE PART NUMBER (CPN)	APPLICABLE TO SERIAL NUMBERS
ALT-1000	822-1939-005	28CXD, 2L6RY, 4K44YG, 4K44YH, 4K46MT, 4KL476, 4KL477, 4KL47H, 4KL47K, 4KL47L, 4KL47M, 4KL5FC, 4KL5G1, 4KL5G2, 4KL6HH, 4KL6HK, 4KL6K1, 4KL6KK, 4L0VP0, 4L0VP1, 4L0VP2, 4L0VP3, 4L0VP4, 4L0VP5, 4L0XL6, 4L0XL7, 4L0XL8, 4L0XL9, 4L0XLC, 4L0XLX, 4L0XLY, 4L0XM0, 4L0XM1, 4L0XM2, 4L0YCG, 4L0YCH, 4L0YCK, 4L0YCL, 4L0YCM, 4L0YCN, 4L0YD3, 4L0YD4, 4L0YD5, 4L100K, 4L100Y, 4L1010, 4L1011, 4L1012, 4L114H, 4LD421, 4LD422, 4LD432, 4LD433, 4LD50T, 4LD50V, 4LD50X, 4LD50Y, 4LD510, 4LD511, 4LD513, 4LD514, 4LD63V, 4LD63X, 4LD63Y, 4LD640, 4LD641, 4LD642, 4LD643, 4LD644, 4LD645, 4LD646, 4LD647, 4LD648, 4LD649, 4LD64C, 4LD64D, 4LD64F, 4LD64G, 4LD64H, 4LD64K, 4LD64L, 4LD64M, 4LD64N, 4LD64P, 4LD664, 4LD665, 4LD666, 4LD70Y, 4LD71H, 4LD71K, 4LD71L, 4LD71M, 4LD71N, 4LD71T, 4LD71V, 4LD71X, 4LD71Y, 4LD720, 4M3CH2, 4M3CH3, 4M3CH4, 4M3CHL, 4M3CHM, 4M3CHN, 4M3CHP, 4M3DLL, 4M3DLP, 4M3DLR, 4M3DLV, 4M3DML, 4M3DMM, 4M3DMN, 4M3DMP, 4M3DMR, 4M3DMT, 4M3DMV, 4M3DYX, 4M3DYY, 4M3F0D, 4M3F0F, 4M3G3V, 4M3G3X, 4M3GR0, 4M3GR1, 4M3GR6, 4M3HM6, 4M3HM8, 4M3HM9, 4M3HMC, 4M3LGM, 4M3LT2, 4M3LT3, 4M3LT4, 4M3LT5, and 4M3LTY
ALT-1000	822-1939-006	4K46CR, 4M3DLT, 4M3HMD, 4M3KD3, 4M3KD5, 4M3KD6, 4M3KD7, 4M3LGD, 4M3LGH, 4M3LGK, 4M3LGL, and 4M3LT1
ALT-4000	822-0615-002	25XMY and 29TWP
ALT-4000	822-0615-003	1CM2Y and 4C8V
ALT-4000	822-0615-125	4L1013, 4L101P, 4L113Y, 4L1140, 4LD512, 4LD63R, 4LD71P, 4LD71R, 4M3DLM, 4M3DLN, 4M3F0G, 4M3F0H, 4M3F0K, 4M3G3T, 4M3GR7, 4M3GR8, 4M3GR9, 4M3HM7, 4M3HMF, 4M3HMG, 4M3KD2, 4M3LGF, 4M3LGG, 4M3LVH, 4M3M99, 4M3M9C, 4M3M9F, 4M3M9V, and 4M3MC2
ALT-4000	822-0615-202	23W5Y
ALT-4000	822-0615-206	26F82, 28CYP, 2L76V, 2V6PJ, 2V6VW, 2V6VX, 2V72D, 33NDW, 3Y9GN, 4K96X, 4KKP8, 4KL4YH, 4L0XKT, 4L0XKV, 4L0XLD, 4L0XLF, 4L0XLG, 4L0XLM, 4L0XLN, 4L0XLR, 4L0XLV, 4L0XM4, 4L0Y9V, 4L0Y9Y, 4L0YC0, 4L0YC1, 4L0YC2, 4L0YC3, 4L0YC4, 4L0YC6, 4L0YC7, 4L0YCC, 4L0YCF, 4L0YCR, 4L0YCV, 4L0YD0, 4L0YD1, 4L101K, 4L101L, 4L101M, 4L113R, 4L113T, 4L1141, 4L1145, 4L1146, 4L1147, 4L114C, 4LD41M, 4LD41P,

UNIT	COLLINS AEROSPACE PART NUMBER (CPN)	APPLICABLE TO SERIAL NUMBERS
ALT-4000	822-0615-206 Continued	4LD41R, 4LD41V, 4LD41Y, 4LD420, 4LD423, 4LD425, 4LD426, 4LD427, 4LD42K, 4LD42L, 4LD42N, 4LD42P, 4LD42T, 4LD42V, 4LD42Y, 4LD431, 4LD50F, 4LD50G, 4LD50H, 4LD50M, 4LD50N, 4LD50R, 4LD515, 4LD516, 4LD51K, 4LD51R, 4LD51T, 4LD51V, 4LD51X, 4LD520, 4LD64R, 4LD64T, 4LD64X, 4LD650, 4LD652, 4LD656, 4LD657, 4LD658, 4LD65C, 4LD65F, 4LD65G, 4LD65Y, 4LD70G, 4LD70L, 4LD70M, 4LD70R, 4LD70T, 4LD711, 4LD712, 4LD715, 4LD716, 4LD717, 4LD718, 4LD71C, 4LD71F, 4LD71G, 4LD721, 4LD722, 4LD724, 4LD726, 4M3CGP, 4M3CGT, 4M3CH5, 4M3CH9, 4M3CHC, 4M3CHD, 4M3CHF, 4M3CHK, 4M3CHR, 4M3CHT, 4M3CHY, 4M3CK1, 4M3CK2, 4M3CK4, 4M3CK6, 4M3DLX, 4M3DLY, 4M3DM0, 4M3DM1, 4M3DM3, 4M3DM4, 4M3DM6, 4M3DM7, 4M3DMC, 4M3DMD, 4M3DMF, 4M3DMG, 4M3DMH, 4M3DMK, 4M3DMX, 4M3DN2, 4M3DN3, 4M3DN4, 4M3DN5, 4M3DN8, 4M3DN9, 4M3DNF, 4M3DNG, 4M3DY6, 4M3DY7, 4M3DY8, 4M3DYC, 4M3DYF, 4M3DYH, 4M3DYL, 4M3DYM, 4M3DYP, 4M3F03, 4M3F05, 4M3F09, 4M3F0L, 4M3F0M, 4M3F0N, 4M3F0P, 4M3F0R, 4M3F0T, 4M3F0V, 4M3F0X, 4M3F10, 4M3G24, 4M3G26, 4M3G2C, 4M3G2G, 4M3G2K, 4M3G2R, 4M3G2V, 4M3G2Y, 4M3G30, 4M3G31, 4M3G32, 4M3G33, 4M3G34, 4M3G35, 4M3G37, 4M3G38, 4M3G3C, 4M3G3F, 4M3G3G, 4M3G3H, 4M3G3K, 4M3G3N, 4M3G3P, 4M3G3R, 4M3G40, 4M3GN8, 4M3GNK, 4M3GNL, 4M3GNM, 4M3GNN, 4M3GNR, 4M3GNT, 4M3GP4, 4M3GPK, 4M3GPL, 4M3GPM, 4M3GPN, 4M3GPP, 4M3GPX, 4M3GPY, 4M3GR3, 4M3GR5, 4M3HKN, 4M3HKX, 4M3HL0, 4M3HL1, 4M3HL5, 4M3HL7, 4M3HL8, 4M3HL9, 4M3HLD, 4M3HLF, 4M3HLH, 4M3HLL, 4M3HLN, 4M3HLP, 4M3HLR, 4M3HLT, 4M3HLX, 4M3HLY, 4M3HM0, 4M3HM1, 4M3HM3, 4M3HMK, 4M3HMM, 4M3HMX, 4M3HMY, 4M3K9R, 4M3K9T, 4M3K9V, 4M3K9X, 4M3K9Y, 4M3KC0, 4M3KC1, 4M3KC3, 4M3KC4, 4M3KC5, 4M3KC6, 4M3KC7, 4M3KC8, 4M3KC9, 4M3KCD, 4M3KCF, 4M3KCL, 4M3KCN, 4M3KCP, 4M3KCR, 4M3KCT, 4M3KCX, 4M3KCY, 4M3KDH, 4M3KDK, 4M3KDL, 4M3KTF, 4M3KTH, 4M3KTL, 4M3KTP, 4M3KTX, 4M3KV0, 4M3KV1, 4M3KVG, 4M3KVK, 4M3KVR, 4M3KVX, 4M3KX1, 4M3LFL, 4M3LFP, 4M3LG0, 4M3LG2, 4M3LG7, 4M3LGC, 4M3LPX, 4M3LR0, 4M3LR1, 4M3LR8, 4M3LRD, 4M3LRK, 4M3LRL, 4M3LRM, 4M3LRN, 4M3LRP, 4M3LRT, 4M3LRV, 4M3LT7, 4M3LT9, 4M3LTC, 4M3LTD, 4M3LTF, 4M3LTG, 4M3LTH, 4M3LTL, 4M3LTM, 4M3LTR, 4M3LTT, 4M3LTV, 4M3LTX, 4M3LV3, 4M3LV4, 4M3LV6, 4M3LVC, 4M3LVF, 4M3LVM, 4M3LVR, 4M3LVT, 4M3M94, 4M3M95, 4M3M98, 4M3M9H, 4M3M9K, 4M3M9L, 4M3M9M, 4M3M9N, 4M3M9P, 4M3MC0, 4M3MC1, 4M3MC3, 4M3MC5, 4M3MC6, 4M3MC7, 4M3MC8, 4M3MCD, 4M3MCF, 4M3MCG, 4M3MCH, 4M3MCL, 4M3MCN, 4M3MCP, 4M3MCR, 4M3MCT, 4M3MCX, 4M3MCY, 4M3MD0, 4M3MD1, 4M3MD4, 4M3MD5, 4M3MD6, 4M3MYN, 4M3MYP, 4M3MYR, 4M3MYT, 4M3MYV, 4M3MYX, 4M3MYY, 4M3N00, 4M3N01, 4M3N02, 4M3N04, 4M3N05, 4M3N06, 4M3N07, 4M3N09, 4M3N0C, 4M3N0D, 4M3N0F, 4M3N1N, 4M3N1P, 4M3N1R, 4M3N22, 4M3N27, 4M3N28,

UNIT	COLLINS AEROSPACE PART NUMBER (CPN)	APPLICABLE TO SERIAL NUMBERS
ALT-4000	822-0615-206 Continued	4M3N29, 4M3N2F, 4M3N2H, 4M3N2L, 4M3N2M, 4M3N2N, 4M3N2P, 4M3N2X, 4M3N2Y, 4M3N30, 4M3N31, 4M3N32, 4M3N33, 4M3N35, 4M3N37, 4M3N38, 4M3N3C, 4M3N3D, 4M3N3H, 4M3N3K, 4M3N3L, 4M3N3M, 4M3N3P, 4M3N3R, 4M3N3T, 4M3N3V, 4M3N42, 4M3N44, 4M3N45, 4M3N48, 4M3N4C, 4M3N4D, 4M3N4F, 4M3N4G, 4M3N4H, 4M3N4K, 4M3N4L, 4N8FFC, 4N8FFF, 4N8FFG, 4N8FFH, 4N8FFK, 4N8FFM, 4N8FFN, 4N8FG0, 4N8FG1, 4N8FG2, 4N8FG3, 4N8FG4, 4N8FG5, 4N8FG6, 4N8FG7, 4N8FG8, 4N8FG9, 4N8FGC, 4N8FGF, 4N8FGG, 4N8FGK, 4N8FGL, 4N8FGN, 4N8FGP, 4N8FGT, 4N8FGV, 4N8FGY, 4N8FH0, 4N8FH1, 4N8FPP, 4N8FPR, 4N8FPX, 4N8FPY, 4N8FR0, 4N8FR1, 4N8FR2, 4N8FR4, 4N8FR6, 4N8FRC, 4N8FRD, 4N8FRF, 4N8FRG, 4N8FRH, 4N8FRK, 4N8FRL, 4N8FRM, 4N8FRN, 4N8FRP, 4N8FRR, 4N8FRT, 4N8FT1, 4N8FT2, 4N8FT3, 4N8FT4, 4N8FT5, 4N8FT6, 4N8FT7, 4N8FT8, 4N8FT9, 4N8FTC, 4N8FTD, 4N8FTF, 4N8FTG, 4N8FTH, 4N8FTK, 4N8FTL, 4N8FTM, 4N8FTN, 4N8FTP, 4N8FTR, 4N8FTT, 4N8FTV, 4N8FTX, 4N8FTY, 4N8FV0, 4N8FV1, 4N8FV2, 4N8FV3, 4N8FV4, 4N8FV6, 4N8G8N, 4N8G8T, 4N8G8V, 4N8G8Y, 4N8G90, 4N8G91, 4N8G92, 4N8G93, 4N8G94, 4N8G95, 4N8G96, 4N8G97, 4N8G98, 4N8G99, 4N8G9C, 4N8G9H, 4N8G9M, 4N8G9R, 4N8G9Y, 4N8GC0, 4N8GC5, 4N8GC7, 4N8GC9, 4N8GCC, 4N8GHC, 4N8GHD, 4N8GHH, 4N8GHK, 4N8GHM, 4ND53, 4ND9Y, 4NKFR, and 4R4C5
ALT-4000	822-0615-207	266, 26D91, 4C58DF, 4L0VR4, 4L0XL1, 4L0XL3, 4L0XL4, 4L0YCX, 4L113K, 4L114D, 4L114F, 4L114K, 4L114V, 4LD429, 4LD42D, 4LD42F, 4LD50L, 4LD517, 4LD518, 4LD51C, 4LD51F, 4LD51G, 4LD51H, 4LD51L, 4LD51M, 4LD51N, 4LD655, 4LD65D, 4LD65K, 4LD65M, 4LD65N, 4LD70C, 4LD70D, 4LD70F, 4LD70K, 4LD70N, 4LD70X, 4LD710, 4LD725, 4LD727, 4LD728, 4M3CGM, 4M3CGN, 4M3CGR, 4M3CGV, 4M3CGX, 4M3CGY, 4M3CH0, 4M3CH6, 4M3CH8, 4M3CHG, 4M3CHX, 4M3CK3, 4M3DM5, 4M3DM9, 4M3DN0, 4M3DNC, 4M3DND, 4M3DY9, 4M3DYG, 4M3DYK, 4M3DYN, 4M3DYR, 4M3DYT, 4M3DYV, 4M3F00, 4M3F01, 4M3F08, 4M3G27, 4M3G2D, 4M3G2F, 4M3G2H, 4M3G2L, 4M3G2M, 4M3G2N, 4M3G2T, 4M3G2X, 4M3G3Y, 4M3G41, 4M3GN6, 4M3GN7, 4M3GNF, 4M3GNH, 4M3GNV, 4M3GP0, 4M3GP3, 4M3GP6, 4M3GPT, 4M3GR2, 4M3HKP, 4M3HKR, 4M3HKY, 4M3HLC, 4M3HLV, 4M3HM5, 4M3HMP, 4M3HMV, 4M3KCG, 4M3KCH, 4M3KV2, 4M3KV3, 4M3KV4, 4M3KV5, 4M3KV6, 4M3LR7, 4M3LVK, 4M3MCK, 4M3N08, 4M3N34, 4M3N49, 4N8FGH, 4N8FGM, 4N8FPN, 4N8FR3, 4N8G9D, 4N8G9F, 4N8G9L, 4N8G9T, 4N8G9V, 4N8G9X, 4N8GC2, 4N8GC3, 4N8GC4, 4N8GH9, 4R4G4, and J8HJ

UNIT	COLLINS AEROSPACE PART NUMBER (CPN)	APPLICABLE TO SERIAL NUMBERS
ALT-4000	822-0615-305	496GW, 4L0Y9T, 4L0YC8, 4L0YCY, 4L113H, 4L113M, 4L1149, 4LD424, 4LD42G, 4LD65P, 4LD65V, 4LD660, 4LD70H, 4LD70P, 4LD70V, 4LD714, 4M3G28, 4M3G2P, 4M3G39, 4M3G3M, 4M3GPR, 4M3GPV, 4M3HKV, 4M3HL2, 4M3HL4, 4M3HM2, 4M3HMN, 4M3HMR, 4M3KDM, 4M3KTC, 4M3KTM, 4M3KV9, 4M3KVC, 4M3LFK, 4M3LFM, 4M3LFN, 4M3LR6, 4M3LRF, 4M3LRX, 4M3LTN, 4M3LV9, 4M3LVL, 4M3LVP, 4M3M97, 4M3N1T, 4M3N21, 4M3N23, 4M3N2D, 4M3N2G, 4M3N2K, 4M3N36, 4M3N39, 4M3N3F, 4M3N3N, 4M3N3X, 4M3N3Y, 4M3N43, 4M3N46, 4N8FF9, 4N8FFY, 4N8FGR, 4N8FH2, 4N8FPL, 4N8FPM, 4N8FR7, and 4N8G8P
ALT-4000	822-0615-306	13L7M, 4L0XM3, 4L0Y9X, and 4N8FPV
ALT-4000	822-0615-315	1M6CB, 33MRM, 4L0XLH, 4L0Y9R, 4L0YCP, 4L0YCT, 4L113N, 4LD428, 4LD42C, 4LD50K, 4LD519, 4LD51D, 4LD65T, 4LD65X, 4LD71D, 4M3CH1, 4M3DM2, 4M3DM8, 4M3DYD, 4M3G22, 4M3G25, 4M3G3D, 4M3GN9, 4M3GND, 4M3GP1, 4M3GR4, 4M3HLK, 4M3HML, 4M3HMT, 4M3KCC, 4M3KX2, 4M3KX3, 4M3KX4, 4M3KX5, 4M3KX6, 4M3LFH, 4M3LFV, 4M3LPY, 4M3LT6, 4M3LTP, 4M3MC4, 4M3MC9, 4M3MD2, 4M3MD3, 4M3N2C, 4N8FR5, 4N8FV7, 4N8G8R, 4N8G8X, 4N8GC1, 4N8GC8, and 4N8GCD
ALT-4000	822-0615-316	28DXD, 29V6V, 3Y8LV, 3Y92P, 4M3CHH, 4M3CHV, 4M3KT8, 4M3KT9, 4M3MCC, and 4M3MCM

NOTE: The modification contained in this service bulletin is strictly applicable to the status(es) listed and not applicable to additional status(es) within the ALT-1000 and ALT-4000 type number.

B. Concurrent Requirements

None.

C. Reason

(1) Description of Existing Condition

Collins Aerospace has identified instances of ALT-4000 units processed via Service Bulletin ALT-4000-34-C that continue to exhibit erroneous altitude indications. Furthermore, Collins Aerospace has also identified instances of momentary lower altitude excursions while above the measurable altitude range caused by marginally performing ferrite beads that had passed the screening test outlined in Service Bulletin ALT-4000-34-C. Finally, the scope of this issue now includes the ALT-1000.

(2) Extent Condition Encountered

Any Serial numbers listed in section 1.A. may be affected.

(3) Expected Benefits of Modification

(a) Once repaired, affected units will no longer incorrectly exhibit altitude transients while above 2600 feet.

(b) Implementation of this service bulletin is total and permanent.

(4) Safety Intent of Corrective Action

Not applicable.

(5) Regulatory Action

Not applicable.

D. Description

Remove and replace two (2) surface mount ferrite beads on the power supply circuit card assembly.

E. Compliance

	Optional - Service Bulletin for convenience or option.
X	Recommended - Service Bulletin to introduce improvements.
	Highly Recommended - Service Bulletin recommended to be accomplished to prevent significant operational disruptions.
	Mandatory - Service Bulletin must be accomplished.

F. Approval

(1) ALT-1000, CPN 822-1939-005/-006, conforms to Federal Aviation Administration (FAA) Technical Standard Order (TSO) C87.

(2) ALT-4000, CPN 822-0615-002/-003/-125/-202/-206/-207/-305/-306/-315/-316, conforms to Federal Aviation Administration (FAA) Technical Standard Order (TSO) C87.

G. Manpower

The total estimated time to accomplish the work in this service bulletin is 2.5 man hours.

TASK	ESTIMATED HOURS
Preparation	1.0
Installation	1.0
Testing	0.5
Total	**2.5**

H. Weight and Balance

None.

I. Electrical Load Data

Not changed.

J. Software Accomplishment Summary

Not applicable.

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K. References

The following publications were used as source data to develop this service bulletin and are available if requested.

(1) ALT-1000 Radio Altimeter Transceiver Component Maintenance Manual (with illustrated parts list) (CMMPL), 523-0806454 (34-47-59)

(2) ALT-4000 Radio Altimeter Transceiver Component Maintenance Manual (with illustrated parts list) (CMMPL), 523-0777844 (34-47-56)

(3) Avionics Standard Shop Practices Instruction Book, CPN 523-0768039 (20-00-01)

(4) All Avionics Service Information Letter 3-93, titled "Non-Procurable Equipment Cleaning Solutions", CPN 523-0804806

L. Other Publications Affected

None.

M. Interchangeability and Intermixability of Parts

Fully interchangeable.

NOTE: Aircraft level interchangeability/intermixability is specified by the Aircraft Original Equipment Manufacturer (OEM) documentation.

2. Material Information

A. Material - Price and Availability

No kit required.

NOTE: The current charge to install this service bulletin is $1,685 United States Dollars (USD) and may be subject to future price adjustments. Pricing is only valid through December 31, 2021. However, this service bulletin will be installed Free of Charge (FOC) until March 1, 2023.

B. Industry Support Information

(1) This service bulletin may be installed only by a Collins Aerospace representative or an authorized Collins Aerospace Service Center.

(2) Warranty claims will be accepted from repair authorized Collins Aerospace dealers for units in or out of warranty, covering the cost of materials and 2.5 man-hours. Units must have the service bulletin installation completed prior to March 1, 2023 to qualify for reimbursement.

NOTE: For equipment with a reported failure during the warranty period where the equipment has not had this service bulletin installed, Collins Aerospace will install this service bulletin free of charge during the performance of the repair. If the equipment is out of warranty or if there is no reported failure, a charge will apply for the installation of the service bulletin.

C. Material Necessary For Each Component

NOTE: Material pricing is included in total service bulletin price. Refer to Section 2.A.

(1) Materials to be purchased.

Use the following materials to modify one (1) ALT-4000 Altimeter.

NEW PART NUMBER	KEY WORD	DESCRIPTION	OLD PART NUMBER	QUANTITY	SPECIAL INSTRUCTION/ DISPOSITION
280-3778-110	MOD Chart	Label, Information	Not Applicable (N/A)	1	N/A
852-3002-030	Ferrite Bead	Bead, Ferrite, Surface Mount	N/A	2	N/A

(2) Materials supplied by operator.

None required.

D. Material Necessary for Each Spare

None required.

E. Reidentified Parts

None required.

F. Tooling – Price and Availability

Use the following tools to modify one (1) ALT-4000 Altimeter.

PART NUMBER	QUANTITY	ESTABLISHED PRICE	DESCRIPTION	ESTABLISHED DELIVERY SCHEDULE	MANUFACTURER'S NAME (IF NOT COLLINS AEROSPACE)
Commercial Grade	1	N/A	RAT-2000 Radio Altimeter Test Set	N/A	Fieldtech
Commercial Grade	1	N/A	Oscilloscope	N/A	Rohde & Schwarz RTE1054 or RTO1014 or RTO2024
RTE-1054_ALT-4000 Bead test_2020-12-18	1	N/A	Oscilloscope Configuration File	N/A	RTE1054 Configuration File*
RTO-1014_ALT-4000 Bead Test_2020-12-18	1	N/A	Oscilloscope Configuration File	N/A	RTO1014 Configuration File* RTO2024 Configuration File*
Commercial Grade	1	N/A	Oscilloscope Probe	N/A	Rohde & Schwarz or equivalent

NOTE: Oscilloscope configuration files may be found on the Service Center Shared Drive.

3. Accomplishment Instructions

A. Modification Procedure

WARNING: **BEFORE HANDLING ANY UNIT OR UNIT COMPONENT, GROUND THE REPAIR OPERATOR THROUGH A CONDUCTIVE WRIST STRAP OR OTHER DEVICE THAT USES A 470 KΩ OR 1 MΩ SERIES RESISTOR TO PREVENT PERSONAL INJURY BY LIMITING CURRENT THROUGH THE WRIST STRAP TO GROUND.**

WARNING: **SERVICE PERSONNEL ARE TO OBEY STANDARD SAFETY PRECAUTIONS, SUCH AS WEARING SAFETY GLASSES, TO PREVENT PERSONAL INJURY WHILE INSTALLING OR DOING MAINTENANCE ON THIS UNIT.**

WARNING: **USE CARE WHEN USING SEALANTS, SOLVENTS AND OTHER CHEMICAL COMPOUNDS. DO NOT EXPOSE TO EXCESSIVE HEAT OR OPEN FLAME. USE ONLY WITH ADEQUATE VENTILATION. AVOID PROLONGED BREATHING OF VAPORS AND AVOID PROLONGED CONTACT WITH SKIN. OBSERVE ALL CAUTIONS AND WARNINGS GIVEN BY THE MANUFACTURER.**

WARNING: **REMOVE ALL POWER TO THE UNIT BEFORE DISASSEMBLING IT. DISASSEMBLING THE UNIT WITH POWER CONNECTED IS DANGEROUS TO LIFE.**

CAUTION: TURN OFF POWER BEFORE DISCONNECTING ANY UNIT FROM WIRING. DISCONNECTING THE UNIT WITHOUT TURNING POWER OFF MAY CAUSE DAMAGE.

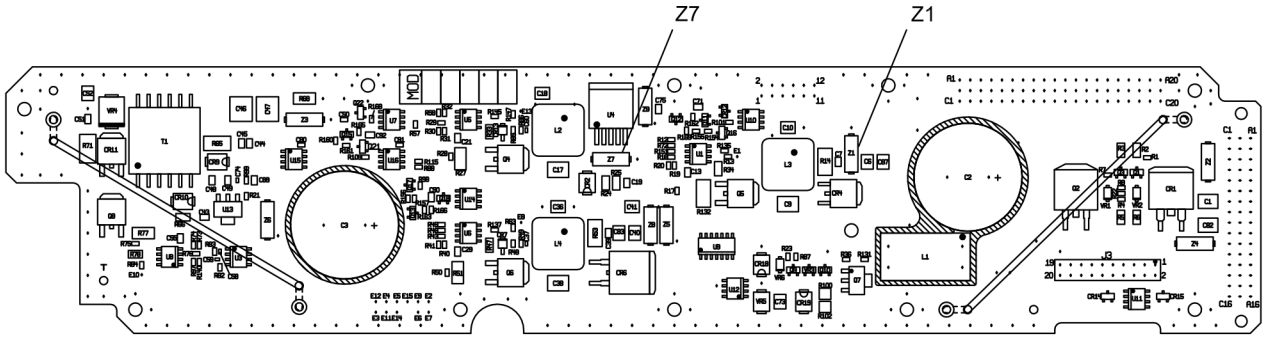
CAUTION: THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) COMPONENTS THAT CAN BE DAMAGED BY STATIC VOLTAGES PRESENT IN MOST REPAIR FACILITIES.

NOTE: For detailed repair/cleaning instructions, refer to the referenced Avionics Standard Shop Practices Instruction Book and the referenced All Avionics Service Information Letter 3-93, titled "Non-Procurable Equipment Cleaning Solutions".

NOTE: Refer to the Disassembly and Assembly instructions in the referenced CMMPL.

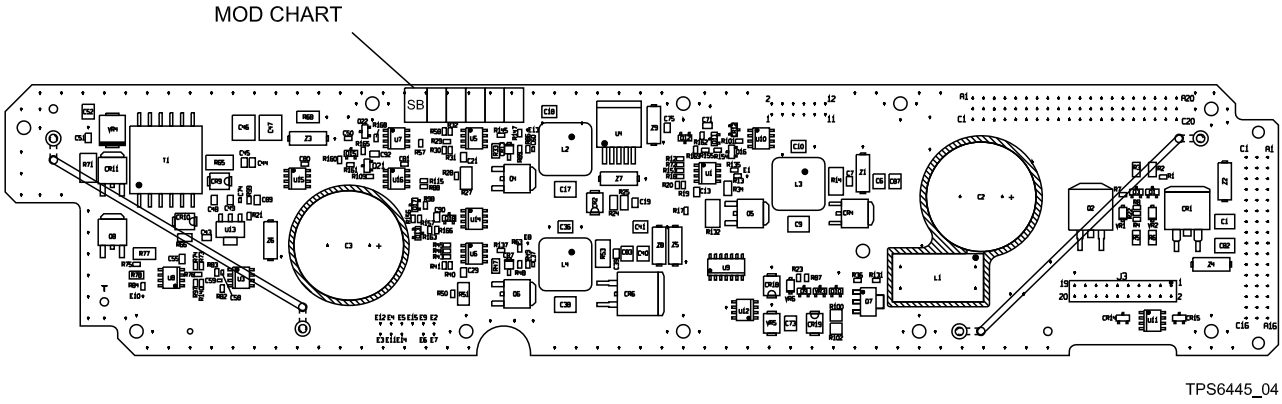
(1) Remove outer cover from the unit. Retain both the cover and the screws removed from the cover.

(a) Locate, remove, discard, and replace surface mount ferrite bead A2A4Z1 and A2A2Z7, CPN 852-3002-030, on the Power Supply Circuit Card A2A4, CPN 828-2633-007. Refer to Figure 1.



Power Supply Circuit Card A2A4, CPN 828-2633-007, Component Location Diagram
Figure 1

(b) Refer to Figure 2. If MOD Chart, CPN 280-3778-110, is not already on the Power Supply Circuit Card A2A4, CPN 828-2633-007, then remove protective backing from MOD Chart, CPN 280-3778-110, and apply to circuit card in approximate location shown in Figure 2.



Power Supply Circuit Card A2A4, CPN 828-2633-007, MOD Chart Location Diagram
Figure 2

(c) Use permanent ink to mark SB D on the MOD chart.

NOTE: Perform Step 3.A.(2) for ALT-4000 test equipment setup configuration.

NOTE: Perform Step 3.A.(3) for ALT-1000 test equipment setup configuration.

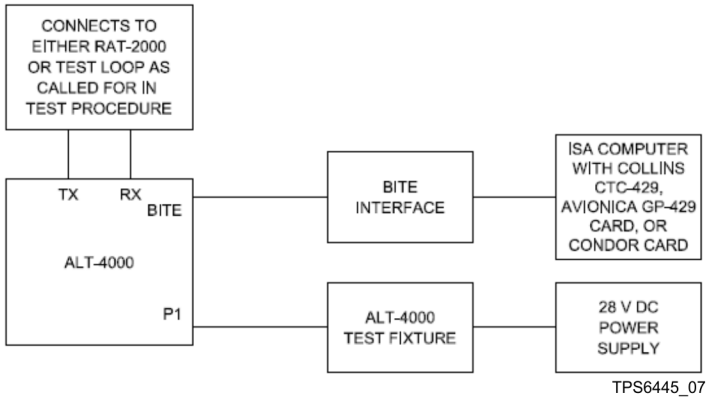
(2) Refer to referenced CMMPL, the ALT-4000 Detailed Performance Test Procedure.

(a) Use the Discrete Settings in shown in Table 1.

Table 1: Standard Test Settings

THE STANDARD TEST SETTINGS FOR ALT-4000 DISCRETE INPUTS ARE:	
ANT. MON	OFF
A.I.D. SELECT	40’
ALT. LIMIT	ALT. LIMIT
SDI/MOD FREQ SEL	#1/Left/50HZ
DISPLAY TYPE	ALT-55
SELF TEST	NORMAL
TEST INHIBIT	OFF
MAINT.	OFF

(b) Use the test setup shown in Figure 3.



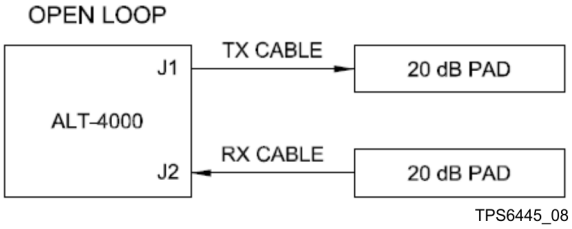
ALT-4000 Test Setup
Figure 3

1. Connect the Unit Under Test (UUT) to the Built-In Test Equipment (BITE) Interface and Test Fixture as shown.

2. Set up the Radio Frequency (RF) loop configuration.

a. If using the RAT-2000, select ∞ (Infinity) termination.

b. If using a test loop, use the Open Loop Configuration shown in Figure 4.



ALT-4000 Open loop Configuration
Figure 4

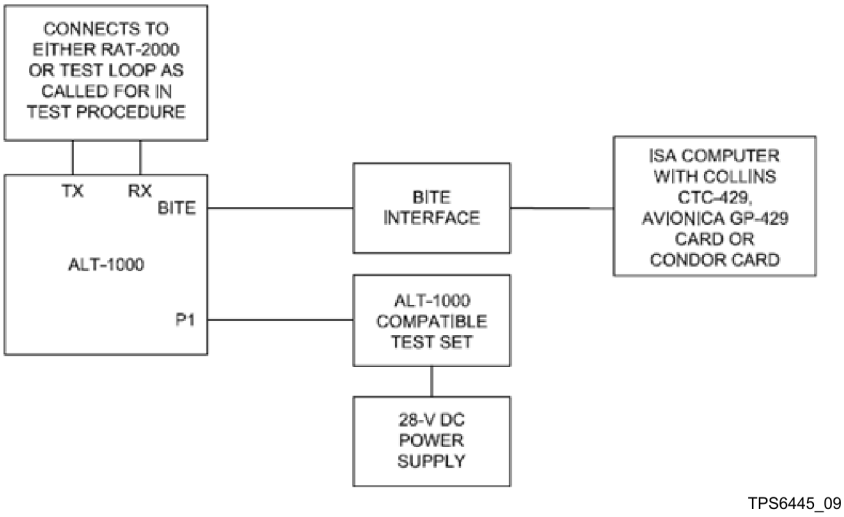
(3) Refer to referenced CMMPL, the ALT-1000 Detailed Performance Test Procedure.

(a) Use the Discrete Settings in shown in Table 2.

Table 2: Discrete Settings

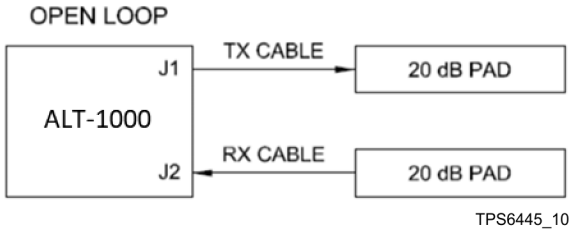
THE STANDARD TEST SETTINGS FOR ALT-1000 DISCRETE INPUTS ARE:	
ANT. MON	OFF
A.I.D. SELECT	40’
SDI/MOD FREQ SEL	#1
SELF TEST	NORMAL
MAINT.	OFF

(b) Use the test setup shown in Figure 5.



ALT-1000 Test Setup
Figure 5

1. Connect the Unit Under Test (UUT) to the Built-In Test Equipment (BITE) Interface and Test Fixture as shown.
2. Set up the Radio Frequency (RF) loop configuration.
   a. If using the RAT-2000, select ∞ (Infinity) termination.
   b. If using a test loop, use the Open Loop Configuration shown in Figure 6.



ALT-1000 Open loop Configuration
Figure 6

(4) Set up and Test Procedure.

(a) General Set Up Instructions:

The purpose of using the oscilloscope is to determine whether a noise signal is present on the +5 VDC power line of the ALT-1000/4000.

(b) Ferrite Bead Test Procedure 1.

1. If using the Rohde and Schwarz RTE1054 Oscilloscope:

a. Locate the Rohde and Schwarz RTE1054 Oscilloscope.

b. Ensure that an oscilloscope probe is connected to Channel 1.

c. Proceed to Step 3.A.(4)(b)3.

2. If using the Rohde and Schwarz RTO1014 or RTO2024 Oscilloscope:

a. Locate the Rohde and Schwarz RTE1014 or RTO2024 Oscilloscope.

b. Ensure that an oscilloscope probe is connected to Channel 1.

c. Proceed to Step 3.A.(4)(b)4.

3. Load the test configuration file for RTE1054 Oscilloscope.

a. Select the button "FILE."

b. On the touch screen, select "Open."

- Choose file "RTE-1054_ALT-4000 Bead test_2020-12-18."
- Click "Select."
- Wait for the file to load
- Once the file is loaded the oscilloscope setup is complete.
    - The setup includes a predetermined MASK needed to determine whether units are PASS/FAIL.
    - The use of this MASK will be discussed later in the procedure.

c. Proceed to Step 3.A.(4)(b)5.

4. Load the test configuration file for RTO1014 or RTO2024 Oscilloscope.

a. Select the button "FILE."

b. On the touch screen, select "Open."

- Choose file "RTO-1014_ALT-4000 Bead Test_2020-12-18."

NOTE: This file is correct for both the RTO1014 and RTO2024.

- Click "Select."
- Wait for the file to load.

- Once the file is loaded the oscilloscope setup is complete.
  - The setup includes a predetermined MASK needed to determine whether units are PASS/FAIL.
  - The use of this MASK will be discussed later in the procedure.

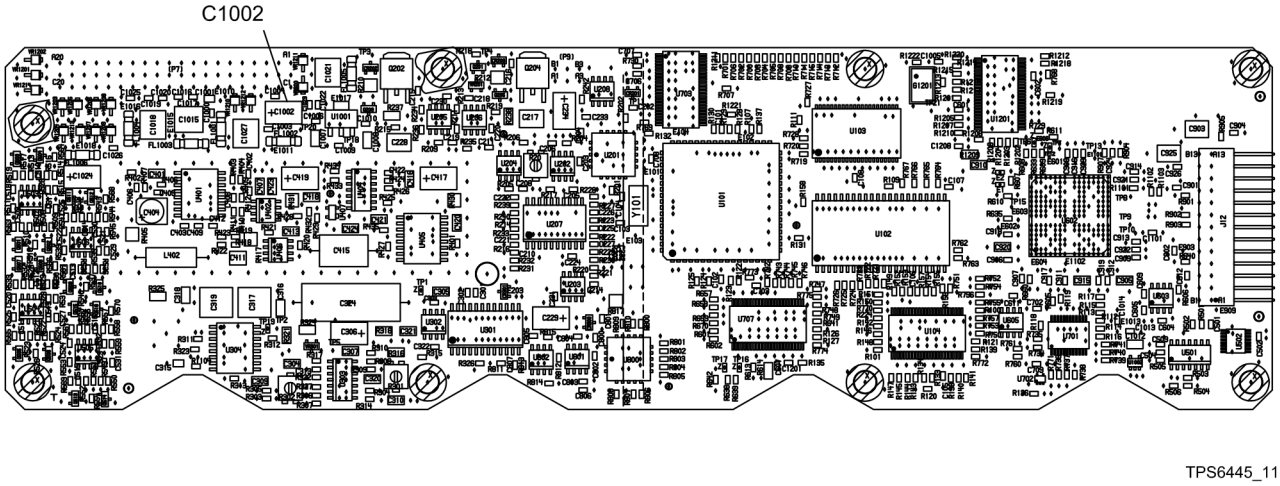
c. Proceed to Step 3.A.(4)(b)5.

5. Hook the UUT to the respective ALT-1000 or ALT-4000 Test Station.

   This includes transmit/receive cables, BITE Connector, and ZIFF Connector.

6. Locate the 828-2675-007 Digital Card Assembly.

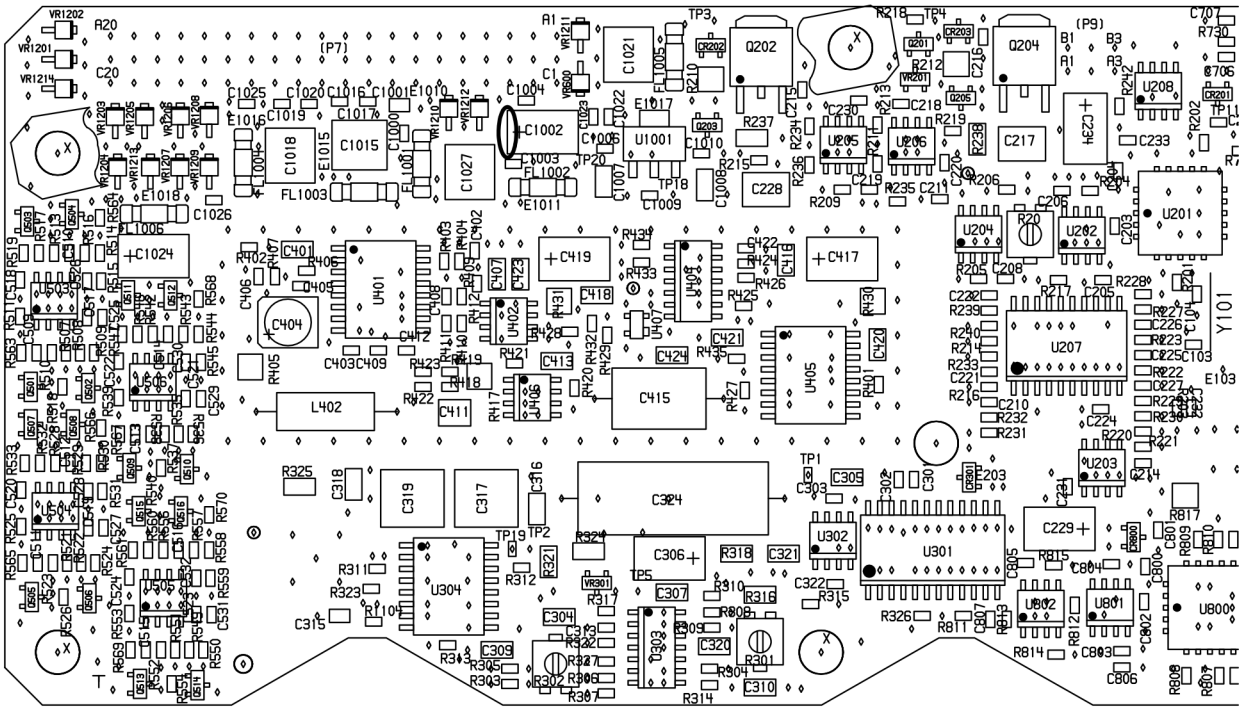
   Refer to Figure 7.



Digital Card Assembly, CPN 828-2675-007, C1002 Detail
Figure 7

7. Locate capacitor C1002 on the Digital Card Assembly

Refer to Figure 8 and Figure 9.



Digital Card Assembly, CPN 828-2675-007, C1002 Detail
Figure 8

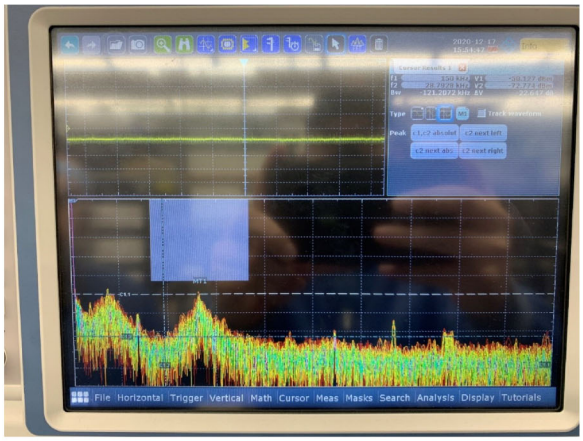
TPS6445_13

Oscilloscope Probe Placement
Figure 9

8. Locate the MASK on the oscilloscope screen.

   a. The MASK is shown as a GREY box on the oscilloscope screen.

   b. Refer to Figure 10.



TPS6445_14

Successful Test Indication
Figure 10

9. Power ON the UUT using the respective ALT-1000 or ALT-4000 Test Panel.

10. Probe Pin 1 of capacitor C1002 using Channel 1 of the oscilloscope.

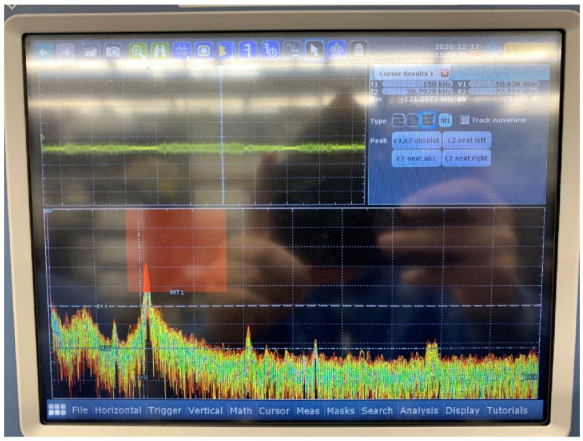
    a. Ensure that the probe is grounded as shown in Figure 9.

b. Refer to Figure 8 and Figure 9.

11. Wait five (5) seconds for the measured signal to stabilize.

12. View the MASK on the oscilloscope screen and determine the MASK color for an observation period of not less than five (5) more seconds.

Refer to Figure 10 and Figure 11.



TPS6445_15

Failed Test Indication
Figure 11

a. If the MASK remains GREY during the observation period, the unit PASSES.

b. If the MASK remains PINK or RED during the observation period, the unit FAILS.

c. If the MASK alternates from GREY to PINK or GREY to RED during the observation period, the unit FAILS.

13. If a PINK or RED MASK is indicated during the observation period:

a. Power OFF the UUT using the respective ALT-1000 or ALT-4000 Test Panel.

b. Replace ferrite bead A2A4 Z1 and Z7 CPN 852-3002-030 on the Power Supply Circuit Card Assembly 828-2633-007.

- Refer to Figure 1 for the location of Z1 and Z7.

c. On completion of bead replacement repeat test starting with Step 3.A.(4)(b)5..

14. If a GREY MASK is indicated during the observation period:

a. Power OFF the UUT using the respective ALT-1000 or ALT-4000 Test Panel.

b. Reassemble the UUT.

Reinstall the outer cover.

B. Testing Procedure

Test the unit in accordance with the test procedures in the Testing and Fault Isolation section of the referenced CMMPL.

C. Identification Procedure

NOTE: The identification procedure must be accomplished in order for the service bulletin to be complete.

Obliterate or use permanent ink to mark out the letter C and D on the unit modification plate.