GOODRICH

SERVICE BULLETIN

Number 80232191-24-01

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SERVICE BULLETIN
STANDARD

ELECTRICAL POWER - PDCU B PT. NO. 80232191 AND 80231925/S3 INSPECTION/ CHECK OF THE TRANSIENT SUPPRESSION DIODES INSTALLED

INITIAL ISSUE

OF

SERVICE BULLETIN
80232191-24-01

AIRCRAFT APPLICABILITY DASSAULT FALCON 7X

1. Instructions

   A. The Service Bulletin was written under EASA Approval No. UK.145.00858.

   B. The technical content of this document is approved under the authority of DOA No. EASA.21J.051.

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Number 80232191-24-01

1. Planning Information

A. Effectivity

(1) This Service Bulletin (SB) applies to the Goodrich Corporation PDCU B Cards Pt. No. 80232191 and 80231925/S3 installed in the Left and Right Primary Power Distribution Box (PPDB), installed on the Falcon 7X aircraft.

B. Concurrent Requirements

(1) None.

C. Reason

(1) Dassault Aviation has performed an analysis of aircraft-level effects associated with degradation of 33 Volt Transient Voltage Suppression (TVS) Diode in the Primary Distribution Control Unit (PDCU) and Generator Control Unit (GCU) printed circuit board assemblies.

D. Description

(1) The TVS Diodes have been categorised based on the severity of the effect. This SB gives the procedures necessary to identify the degradation of "Priority 1 and 2" TVS Diodes.

E. Compliance recommendation

(1) At the next removal of a PDCU B card.

F. Approval

(1) The technical content of this document is approved under the authority of DOA No. EASA.21J.051.

G. Manpower

(1) 0.25 Man hours

H. Weight and Balance

(1) None.

I. Electrical Load Data

(1) None.

J. Software Accomplishment Summary

(1) Not applicable

K. References

(1) This SB was written using Goodrich Engineering Report PG0900400ED and rework drg 80232215 as source data.

L. Other Publications Affected

- Goodrich ACMM for the PDCU-B CARD ASSEMBLY Part No. 80232190, ATA No. 24-61-09 will be revised to include the data contained in this SB.
- Goodrich CMM for the Left PPDB, Part No. SW02101, ATA No. 24-61-01 will be revised to reference the data contained in this SB
- Goodrich CMM for the Right PPDB, Part No. SW02201, ATA No. 24-61-02 will be revised to reference the data contained in this SB

M. Interchangeability or Intermixability of Parts

(1) Not applicable

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2. Material Information

A. Material - Price and Availability

(1) Not Applicable.

B. Industry Support Program

(1) Not Applicable.

C. Material Necessary for each Component/Engine

(1) Not Applicable.

D. Spare Parts Availability

(1) Not Applicable.

E. Re-identified Parts

(1) None.

F. Tooling - Price and Availability

(1) The tools given below are necessary for this SB and are to be procured from the sources given. Prices and lead times for Goodrich tools are available on request.

Qty	Part Number	Source	Keyword
1	-	Commercially Available	ESD Surface mat and wrist band
1	TE2-0658	Goodrich Power Systems	Falcon multi-channel transorb tester (33V)
1	-	Commercially Available	Power supply 48V D.C.
2	-	Locally Made	Ground lead with 4mm plug terminations
2	-	Commercially Available	Crocodile clip

3. Accomplishment Instructions

A. General

CAUTION: THE SPDB CONTAINS ITEMS THAT ARE ELECTROSTATIC-DISCHARGE SENSITIVE (ESDS). OBEY APPROVED INDUSTRY PRECAUTIONS WHEN YOU TOUCH, REMOVE OR INSTALL PARTS. DAMAGE CAN OCCUR FROM ELECTROSTATIC DISCHARGE.

NOTE: This SB is intended for use on a PDCU B that is removed from the PPDB and off the aircraft.

(1) Place the PDCU B card on the ESD mat.

(2) Connect a ground lead to the ground socket of the test-set and a suitable earth point.

(3) Connect the DC plug from the Power Supply Unit (PSU) to the 48 volts socket on the side of the test-set.

(4) Connect mains lead from the PSU to an applicable a.c. outlet and apply mains power.

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(5) Push the "TEST" button on the test-set, make sure the 40 RED LEDs illuminate.

NOTE: If, the RED LEDs do not illuminate the test set is damaged.

B. Procedure

(1) Plug the board into the PDCU B connector on the test-set (Ref. Fig. 1).

NOTE: The top side of the board (the side with the main connector) must face you.

(2) Connect a ground lead to the socket "GROUND" on the test-set. Use a crocodile clip and connect the ground lead to the thermal plane of the PDCU B card (Ref. Fig. 2).

(3) Record serial number of the PDCU B card and the test-set on the Results sheet.

(4) Push the "TEST" button on the test-set, record the status of all the LEDs on the Result Sheet Appendix 1.

NOTE: This is to collect data for possible future enhancements.

(5) Release the test button.

(6) Push the "TEST" button on the test-set, and make sure the circuit LEDs listed (Ref. Table 1) are all GREEN.

Table 1 LED Pass PDCU B

Circuit No.	Function	RED LED	GREEN LED	Result
2	GLC3 B ST	OFF	ON	PASS
4	BTC1 B ST	OFF	ON	PASS
7	GEN1 OC	OFF	ON	PASS
10	GEN2 OC	OFF	ON	PASS
12	BTC2 B ST	OFF	ON	PASS
13	GEN3 OC	OFF	ON	PASS
14	ISOL TIED	OFF	ON	PASS
16	BTC3 B ST	OFF	ON	PASS
19	GLC1 B ST	OFF	ON	PASS
20	BAT1 GP OC IN	OFF	ON	PASS
26	GLC1 B ST	OFF	ON	PASS
29	EMERG ISOL B STATUS	OFF	ON	PASS
35	RAT WOW	OFF	ON	PASS
39	BAT1 GP OC OUT	OFF	ON	PASS

(7) Release the test button.

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(8) If, a RED LED is ON or a GREEN LED is OFF (Ref. Table 1), the PDCU B card must be returned to Goodrich Power systems.

C. Completion

(1) Disconnect and remove the ground lead and crocodile clip from the thermal plane of the PDCU B card.

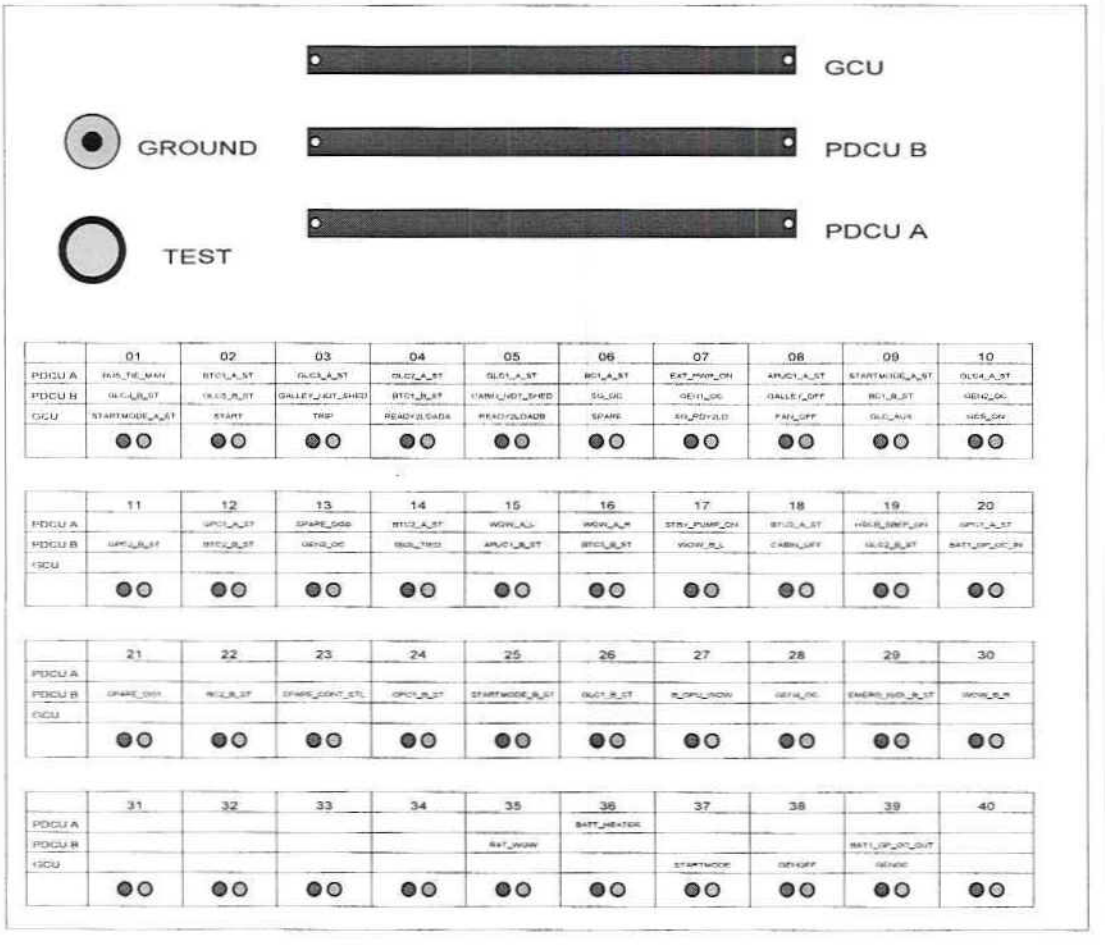
(2) Remove the PDCU B card from the test-set.

(3) Remove a.c. mains power and disconnect the PSU from the a.c. outlet..

(4) Disconnect the PSU from the 48 volts socket on the side of the test-set.

(5) Remove the ground lead from the ground socket of the test-set and the earth point.

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	01	02	03	04	05	06	07	08	09	10
PDCU A	BUS_TIE_MAN	BTC1_A_ST	GLC3_A_ST	GLC2_A_ST	GLC1_A_ST	BC1_A_ST	EXT_PWR_ON	APUC1_A_ST	STARTMODE_A_ST	GLC4_A_ST
PDCU B	GLC_LR_ST	GLC3_R_ST	GALLEY_HOT_SHED	BTC1_R_ST	CABIN_HOT_SHED	SG_GC	GEN1_OC	GALLEY_OFF	BC1_R_ST	GEN2_OC
GCU	STARTMODE_A_ST	START	TRIP	READY2LOAD A	READY2LOAD B	SPARE	EN_PDY2LD	FAN_OFF	GLC_AUX	HDS_ON
	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○

	11	12	13	14	15	16	17	18	19	20
PDCU A		APC1_A_ST	SPARE_D00	BTC2_A_ST	WOW_A_L	WOW_A_R	STBY_PUMP_ON	BTC3_A_ST	HDS_R_SWIT_ON	APC1_A_ST
PDCU B	APC_LR_ST	BTC2_R_ST	GEN3_OC	GLC_TRIP	APUC1_R_ST	BTC1_R_ST	WOW_R_L	CABIN_OFF	GLC2_R_ST	BATT_OP_OC_IN
GCU										
	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○

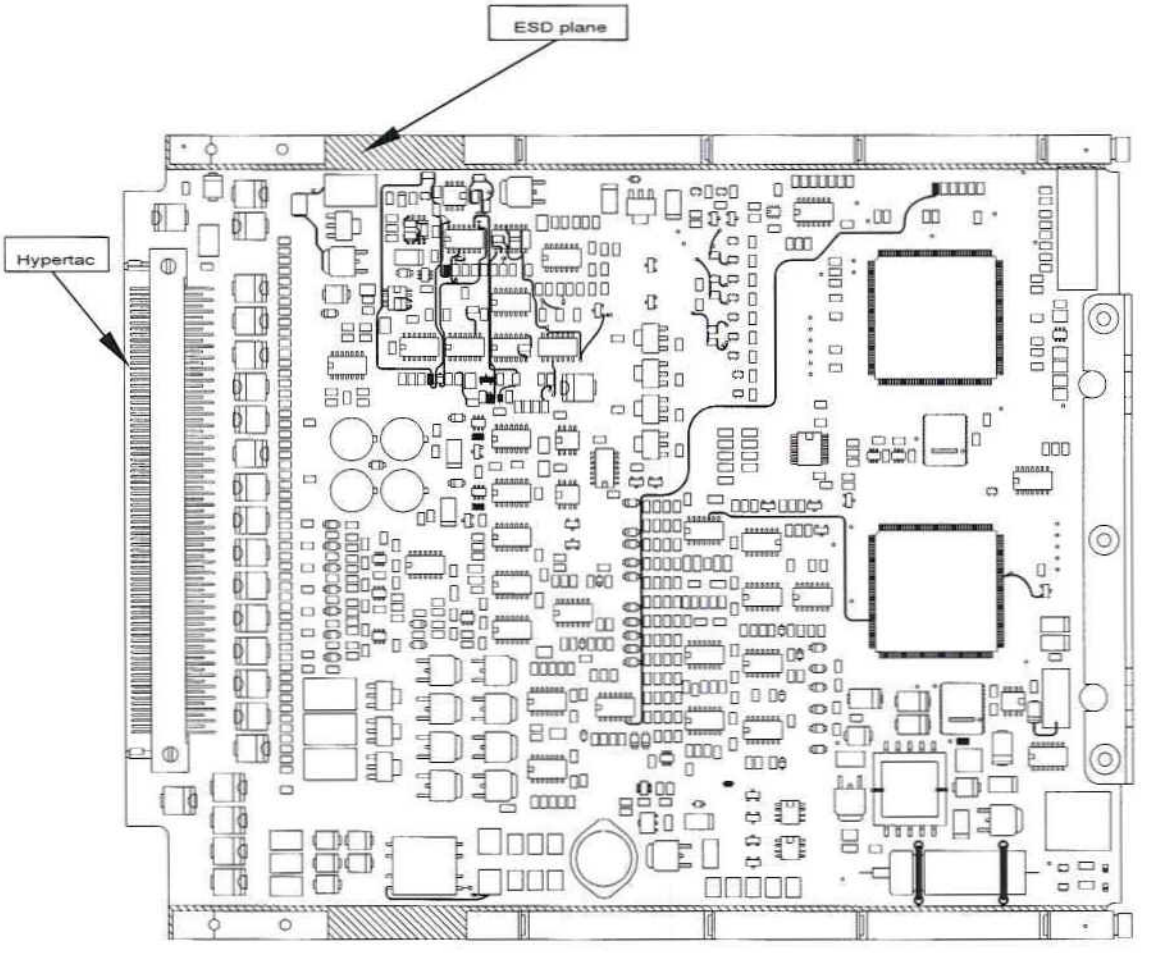
	21	22	23	24	25	26	27	28	29	30
PDCU A										
PDCU B	SPARE_D01	BC2_R_ST	SPARE_CONT_STL	GPC1_R_ST	STARTMODE_R_ST	GLC1_R_ST	EL_OPU_NOW	GEN4_OC	EMERG_GEN_R_ST	WOW_R_R
GCU										
	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○

	31	32	33	34	35	36	37	38	39	40
PDCU A						BATT_HEATER				
PDCU B					BAT_UNDW				BAT1_OP_OC_OUT	
GCU							STARTMODE	GEN OFF	GEN OC	
	●○	●○	●○	●○	●○	●○	●○	●○	●○	●○

D7X_SB_2401_0002_01_0

Test set TE2-0658
Figure 1

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D7X_SB_2401_0001_01

PDCU B
Figure 2

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Appendix 1

A. Complete the Results Table.

NOTE: * Delete as necessary.

Table 2 Results Table

Board type	Serial No.	TE2-0658, Serial No.

Circuit No.	Function	RED LED	GREEN LED
1	PDCU A: BUS_TIE_MAN PDCU B: GLC4_B_ST	ON* / OFF*	ON* / OFF*
2	PDCU A: BTC1_A_ST PDCU B: GLC3_B_ST GCU: STAR	ON* / OFF*	ON* / OFF*
3	PDCU A: GLC3_A_ST PDCU B: GALLEY_NOT_SHED GCU: TRIP	ON* / OFF*	ON* / OFF*
4	PDCU A: GLC2_A_ST PDCU B: BTC1_B_ST GCU: READY2LOADA	ON* / OFF*	ON* / OFF*
5	PDCU A: GLC1_A_ST PDCU B: CABIN_NOT_SHED GCU: READY2LOADB	ON* / OFF*	ON* / OFF*
6	PDCU A: BC1_A_ST PDCU B: SG_OC GCU: SPARE	ON* / OFF*	ON* / OFF*
7	PDCU A: EXT_PWR_ON PDCU B: GEN1_OC GCU: SG_RDY2LD	ON* / OFF*	ON* / OFF*
8	PDCU A: APUC1_A_ST PDCU B: GALLEY_OFF GCU: FAN_OFF	ON* / OFF*	ON* / OFF*
9	PDCU A: STARTMODE_A_ST PDCU B: BC1_B_ST GCU: GLC_AUX	ON* / OFF*	ON* / OFF*
10	PDCU A: GLC4_A_ST PDCU B: GEN2_OC GCU: GCS_ON	ON* / OFF*	ON* / OFF*

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Circuit No.	Function	RED LED	GREEN LED
11	PDCU B: GPC2_B_ST	ON* / OFF*	ON* / OFF*
12	PDCU B: BTC2_B_ST	ON* / OFF*	ON* / OFF*
13	PDCU A: SPARE_OG0 PDCU B: GEN3_OC	ON* / OFF*	ON* / OFF*
14	PDCU A: BTC2_A_ST PDCU B: ISOL_TIED	ON* / OFF*	ON* / OFF*
15	PDCU A: WOW_A_L PDCU B: APUC1_B_ST	ON* / OFF*	ON* / OFF*
16	PDCU A: WOW_A_R PDCU B: BTC3_B_ST	ON* / OFF*	ON* / OFF*
17	PDCU A: STBY_PUMP_ON PDCU B: WOW_B_L	ON* / OFF*	ON* / OFF*
18	PDCU A: BTC3_A_ST PDCU B: CABIN_OFF	ON* / OFF*	ON* / OFF*
19	PDCU A: HSCB_SBEP_ON PDCU B: GLC2_B_ST	ON* / OFF*	ON* / OFF*
20	PDCU A: GPC1_A_ST PDCU B: BAT1_GP_OC_IN	ON* / OFF*	ON* / OFF*
21	PDCU B: SPARE_OG1	ON* / OFF*	ON* / OFF*
22	PDCU B: BC2_B_ST	ON* / OFF*	ON* / OFF*
23	PDCU B: SPARE_CONT_CTL	ON* / OFF*	ON* / OFF*
24	PDCU B: GPC1_B_ST	ON* /OFF*	ON* /OFF*
25	PDCU B: STARTMODE_B_ST	ON* / OFF*	ON* / OFF*
26	PDCU B: GLC1_B_ST	ON* / OFF*	ON* / OFF*
27	PDCU B: B_GPU_WOW	ON* / OFF*	ON* / OFF*
28	PDCU B: GEN4_OC	ON* / OFF*	ON* / OFF*
29	PDCU B: EMERG_ISOL_B_ST	ON* / OFF*	ON* / OFF*
30	PDCU B: WOW_B_R	ON* / OFF*	ON* / OFF*
35	PDCU B: RAT_WOW	ON* / OFF*	ON* / OFF*
36	PDCU A: BATT_HEATER	ON* / OFF*	ON* / OFF*
37	GCU: STARTMODE	ON* / OFF*	ON* / OFF*
38	GCU: GENOFF	ON* / OFF*	ON* / OFF*

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Circuit No.	Function	RED LED	GREEN LED
39	PDCU B: BAT1_GP_OC_OUT GCU: GENOC	ON* / OFF*	ON* / OFF*

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