

Service Bulletin No: 30-014

Ref No: 375

Modification No: EC-15-0097

ATA Chapter: 30

ICE AND RAIN PROTECTION**AIRFOIL DE-ICE SYSTEM - INTRODUCTION OF A WIRING MODIFICATION TO SUPPORT REPLACEMENT OF A NEW AIRFOIL DE-ICE SYSTEM TIMER****1. Planning Information****A. Effectivity**

All PC-12, PC-12/45 and PC-12/47 Series aircraft MSN 101 thru 544 and MSN 546 thru 999.

B. Concurrent Requirements

None.

C. Reason**(1) Issue**

The de-ice system timer (P/N 959.89.01.014) is no longer procurable.

(2) Solution

Use this Service Bulletin to replace the existing de-ice system timer with an equivalent de-ice system timer (P/N 959.89.01.043). The equivalent timer requires modification of the de-ice system wiring.

D. Description

This Service Bulletin gives the data and instructions necessary to:

- Remove the existing de-ice system timer
- Modify the de-ice system wiring
- Install an equivalent de-ice system timer (P/N 959.89.01.043).

Revision 1 to this Service Bulletin

- Corrects the length of one new wire
- Updates the modification instructions and illustration (Figure 5) for MSN 401 thru 544, MSN 546 thru 999 to use TB231-08 for some wire connections instead of TB231-04
- Updates the description of terminal block TB231-02.

Operators who have already successfully embodied this Service Bulletin do not need to do rework.

E. Compliance

Optional.

F. Approval

The technical content of this document is approved under the authority of DOA No. EASA. 21J. 357.

PILATUS advises Operators/Owners to check with their designated Airworthiness Authority for any changes, local regulations or sanctions that may affect the embodiment of this Service Bulletin.

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H. Manpower

Task	SB only	During Annual Inspection
Preparation	1.00	1.00
Modification	9.50	5.50
Close up	1.50	1.50
TOTAL MAN-HOURS	12.00	8.00

I. Weight and Balance

No change.

J. Electrical Load Data

No change.

K. Software

None.

L. References

AMM:

12-A-24-00-00-00A-901A-A 12-A-25-21-01-00A-920A-A 12-A-25-21-04-00A-920A-A
12-A-25-22-01-00A-920A-A 12-A-25-22-04-00A-920A-A 12-A-30-10-00-00A-903A-A
12-A-30-10-03-00A-920A-A

M. Publications Affected

Aircraft Maintenance Manual (AMM)

Illustrated Parts Data (IPD)

Wiring Diagram Manual (WDM)

N. Interchangeability of Parts

The existing de-ice system timer (P/N 959.89.01.014) and the new de-ice system timer (P/N 959.89.01.043) are not interchangeable.

2. Material Information

A. Material - Price and Availability

Operators that require additional information and/or Service Bulletin Material should contact their authorized Pilatus Service Center, or Pilatus Customer Support on www.pilatus-aircraft.com → contact us

Material	Price	Availability
De-ice Timer 959.89.01.043	Contact as above	One month lead time
Modification Kit Number 500.50.12.363 (MSN 101 thru 400)	Contact as above	One month lead time
500.50.12.364 (MSN 401 thru 888)	Contact as above	One month lead time

NOTE: Part Numbers given in this Service Bulletin are correct at the time of approval. Pilatus Aircraft Ltd. reserves the right to change part numbers as necessary. Part numbers of items delivered are correct when dispatched. This could lead to differences between those part numbers quoted in this Service Bulletin and if parts are superseded. Operators are requested to check the IPD for delivered parts which differ from those listed in the Service Bulletin Materials Kit List.

B. Warranty

Not applicable.

C. Material Necessary

(1) Material to be Ordered

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
959.89.01.043	DE-ICE SYSTEM TIMER	959.89.01.014	1	R	1	1

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

(2) Modification Kit Number: 500.50.12.363 (MSN 101 thru 400)

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
971.42.31.536	CONTACT, PIN, STANDARD, #20		7	N	3	-
942.94.51.102	SLEEVE, IDENT		6	N	3	-
980.71.10.101	DIODE, 1N4007 9BJE61 1000V 1A		3	N	3	-
971.75.16.822	SOCKET, CONTACT, AWG20/20-24		3	N	3	-
971.31.32.637	SPLICE, BLUE		3	N	3	-
971.19.38.605	HEAT-SHRINKABLE CAP		3	N	3	-
919.79.41.302	CABLE, ELECTRIC		1	N	3	-
	WIRE, H911A22		3.0 M	N	3	-
	WIRE, H911B22		3.0 M	N	3	-
	WIRE, H911C22		1.0 M	N	3	-
	WIRE, H911D22		1.0 M	N	3	-
	WIRE, H912A22		1.0 M	N	3	-
	WIRE, H912B22		1.0 M	N	3	-
	WIRE, H912C22		1.0 M	N	3	-
	WIRE, H912D22		1.0 M	N	3	-

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

(3) Modification Kit Number: 500.50.12.364 (MSN 401 thru 544, MSN 546 thru 999)

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
971.42.31.536	CONTACT, PIN, STANDARD, #20		12	N	5	-
942.94.51.102	SLEEVE, IDENT		2	N	5	-
980.71.10.101	DIODE, 1N4007 9BJE61 1000V 1A		2	N	5	-
971.75.16.822	SOCKET, CONTACT, AWG20/20-24		2	N	5	-
971.31.32.637	SPLICE, BLUE		1	N	5	-
919.79.41.302	CABLE, ELECTRIC		1	N	5	-
	WIRE, H913A22		3.0 M	N	5	-
	WIRE, H913B22		1.0 M	N	5	-
	WIRE, H913C22		1.0 M	N	5	-
	WIRE, H51A22		1.0 M	N	5	-
	WIRE, H914A22		3.0 M	N	5	-
	WIRE, H915A22		1.0 M	N	5	-
	WIRE, H915B22		1.0 M	N	5	-

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

D. Operator Supplied Materials

Material No.	Description	Qty	Remarks
P09-008	CABLE TIE	AR	
P09-014	CABLE TIE	AR	

E. Tooling - Cost and Availability

None.

3. Accomplishment Instructions**A. Preparation**

- (1) Obey the electrical system safety precautions, refer to AMM 12-A-24-00-00-00A-901A-A.
- (2) De-energize the aircraft electrical system, refer to AMM 12-A-24-00-00-00A-901A-A.
- (3) Open and install a safety clip (circuit breaker hold open) on the circuit breaker:
 - GENERATOR 2 BUS (MAIN BUS).
- (4) Remove the passenger compartment seats:
 - Executive interior, refer to AMM 12-A-25-21-01-00A-920A-A
 - Standard interior, refer to AMM 12-A-25-22-01-00A-920A-A.
- (5) Remove the passenger compartment carpets:
 - Executive interior, refer to AMM 12-A-25-21-04-00A-920A-A
 - Standard interior, refer to AMM 12-A-25-22-04-00A-920A-A.
- (6) Remove the access panels 12FZ, 12GZ, 12HZ and 12IZ.
- (7) Remove the existing de-ice system timer, refer to AMM 12-A-30-10-03-00A-920A-A.

B. Wiring Modification

NOTE: Use cable ties (Mat. No. P09-008 or P09-014) as necessary to attach the new wires to the existing wire looms.

- (1) For aircraft MSN 101 thru 400
Refer to "Figure 2" on page 13 and "Figure 3" on page 14.
 - (a) At de-ice timer A131, connector P131, disconnect these wires from these pins:
 - Wire H51A22 from pin C
 - Wire H50A22 from pin D.
 - (b) At TB231-02, pin H, disconnect wire H49C22.
 - (c) Install a contact socket (P/N 971.75.16.822) on one end of these new wires:
 - H911B22
 - H911A22
 - H912A22.

- (d) At de-ice timer A131, connector P131, connect these wires to these pins:
- Wire H911B22 to pin C
 - Wire H911A22 to pin D
 - Wire H912A22 to pin K.
- (e) Install one contact pin (P/N 971.42.31.536) on each of these new wires:
- H912A22
 - H912B22
 - H912C22
 - H911C22
 - H911D22.
- (f) Install a contact pin (P/N 971.42.31.536) on one end of new wire H912D22 and connect it to TB231-02, pin H.
- (g) Route wire H912A22 along existing wire looms and connect to the anode (+) terminal of new diode CR231 (P/N 980.71.10.101).
- (h) Connect wire H912B22 to the cathode (-) terminal of diode CR231 (P/N 980.71.10.101).
- NOTE:** Use a new ident sleeve (P/N 942.94.51.102) to identify the new diode as CR231.
- (i) Use a splice (P/N 971.31.32.637) to connect wires H912B22, H912C22 and H49C22.
- (j) Install a new heat-shrinkable cap (P/N 971.19.38.605) on the splice.
- NOTE:** Route the wires along existing wire looms.
- (k) Use a new ident sleeve (P/N 942.94.51.102) to identify the splice as SP231.
- (l) Connect wire H912C22 to the anode (+) terminal of new diode CR233 (P/N 980.71.10.101).
- (m) Route wire H912D22 along existing wire looms and connect to the cathode (-) terminal of diode CR233 (P/N 980.71.10.101).
- NOTE:** Use a new ident sleeve (P/N 942.94.51.102) to identify the new diode as CR233.
- (n) Use a splice (P/N 971.31.32.637) to connect wires H911A22, H911C22 and H50A22.
- NOTE:** Route the wires along existing wire looms.
- (o) Install a new heat-shrinkable cap (P/N 971.19.38.605) on the splice.
- (p) Use a new ident sleeve (P/N 942.94.51.102) to identify the splice as SP233.

(q) Connect wire H911C22 to the cathode (-) terminal of new diode CR235 (P/N 980.71.10.101).

(r) Connect wire H911D22 to the anode (+) terminal of diode CR235 (P/N 980.71.10.101).

NOTE: Use a new ident sleeve (P/N 942.94.51.102) to identify the new diode as CR235.

(s) Use a splice (P/N 971.31.32.637) to connect wires H911D22, H911B22 and H51A22.

(t) Install a new heat-shrinkable cap (P/N 971.19.38.605) on the splice.

NOTE: Route the wires along existing wire looms.

(u) Use a new ident sleeve (P/N 942.94.51.102) to identify the splice as SP235.

(2) For aircraft MSN 401 thru 544, MSN 546 thru 999 to “Figure 4” on page 15 and “Figure 5” on page 16.

(a) Install a contact socket (P/N 971.75.16.822) on the end of new wire H914A22.

(b) Connect wire H914A22 to de-ice timer A131, connector P131, pin K.

(c) Route wire H914A22 along existing wire looms to diode module TB231-08.

(d) Cut wire H914A22 and install a contact pin (P/N 971.42.31.536) on the end.

(e) Connect wire H914A22 to diode module TB231-08, pin F.

(f) Install a contact pin (P/N 971.42.31.536) on one end of new wire H913C22.

(g) Connect wire H913C22 to diode module TB231-04, pin D.

(h) Route wire H913C22 along existing wire looms to new diode CR231 (P/N 980.71.10.101).

(i) Cut wire H913C22 and install a contact pin (P/N 971.42.31.536) on the end.

(j) Connect wire H913C22 to the cathode (-) terminal of diode CR231.

(k) Install a contact pin (P/N 971.42.31.536) on one end of new wire H913B22.

(l) Connect wire H913B22 to TB231-02, pin E.

(m) Route wire H913B22 along existing wire looms to diode CR231.

(n) Cut wire H913B22 and install a contact pin (P/N 971.42.31.536) on the end.

(o) Connect wire H913B22 to the anode (+) terminal of diode CR231.

NOTE: Use a new ident sleeve (P/N 942.94.51.102) to identify the new diode as CR231.

(p) Install a contact pin (P/N 971.42.31.536) on one end of new wire H915A22.

- (q) Connect wire H915A22 to diode module TB231-08, pin K.
- (r) Route wire H915A22 along existing wire looms to new diode CR233 (P/N 980.71.10.101).
- (s) Cut wire H915A22 and install a contact pin (P/N 971.42.31.536) on the end.
- (t) Connect wire H915A22 to the cathode (-) terminal of diode CR233.
- (u) At TB231-02, pin H, disconnect wire H49C22.
- (v) Install a contact pin (P/N 971.42.31.536) on one end of new wire H915B22.
- (w) Connect wire H915B22 to TB231-02, pin H.
- (x) Route wire H915B22 along existing wire looms to diode CR233.
- (y) Cut wire H915B22 and install a contact pin (P/N 971.42.31.536) on the end.
- (z) Connect wire H915B22 to the anode (+) terminal of diode CR233.

NOTE: Use a new ident sleeve (P/N 942.94.51.102) to identify the new diode as CR233.

- (aa) At central advisory and warning system A375, connector P376, pin 3, cut wire H49C22 to a length suitable for connection to diode module TB231-08.
- (ab) Route wire H49C22 along existing wire looms to diode module TB231-08, pin J.
- (ac) Install a contact pin (P/N 971.42.31.536) on the end of wire H49C22.
- (ad) Connect wire H49C22 to diode module TB231-08, pin J.
- (ae) At de-ice timer A131, connector P131, pin C, disconnect wire H51A22.
- (af) Install a contact socket (P/N 971.75.16.822) on one end of new wire H913A22.
- (ag) Connect wire H913A22 to de-ice timer A131, connector P131, pin C.
- (ah) Route wire H913A22 along existing wire looms to TB231-02.
- (ai) Cut wire H913A22 and install a contact pin (P/N 971.42.31.536) on the end.
- (aj) Connect wire H913A22 to TB231-02, pin C.
- (ak) Attach a splice (P/N 971.31.32.637) to extend wire H51A22.
- (al) Identify the splice as SP231.
- (am) Route wire H51A22 along existing wire looms to TB231-02.
- (an) Install a contact pin (P/N 971.42.31.536) to the end of wire H51A22.
- (ao) Connect wire H51A22 to TB231-02, pin D.

C. De-ice System Timer Installation

- (1) Install the de-ice system timer Figure 1/1 on the structure with the four screws Figure 1/4 and washers Figure 1/3.
- (2) Connect the electrical connector Figure 1/2 to the de-ice system timer Figure 1/1.
- (3) Remove the safety clip (circuit breaker hold open) and close the circuit breaker:
 - GENERATOR 2 BUS (MAIN BUS).
- (4) Energize the aircraft electrical system, refer to AMM 12-A-24-00-00-00A-901A-A.
- (5) Do the adjustment/test of the airfoil de-ice system, refer to AMM 12-A-30-10-00-00A-903A-A.

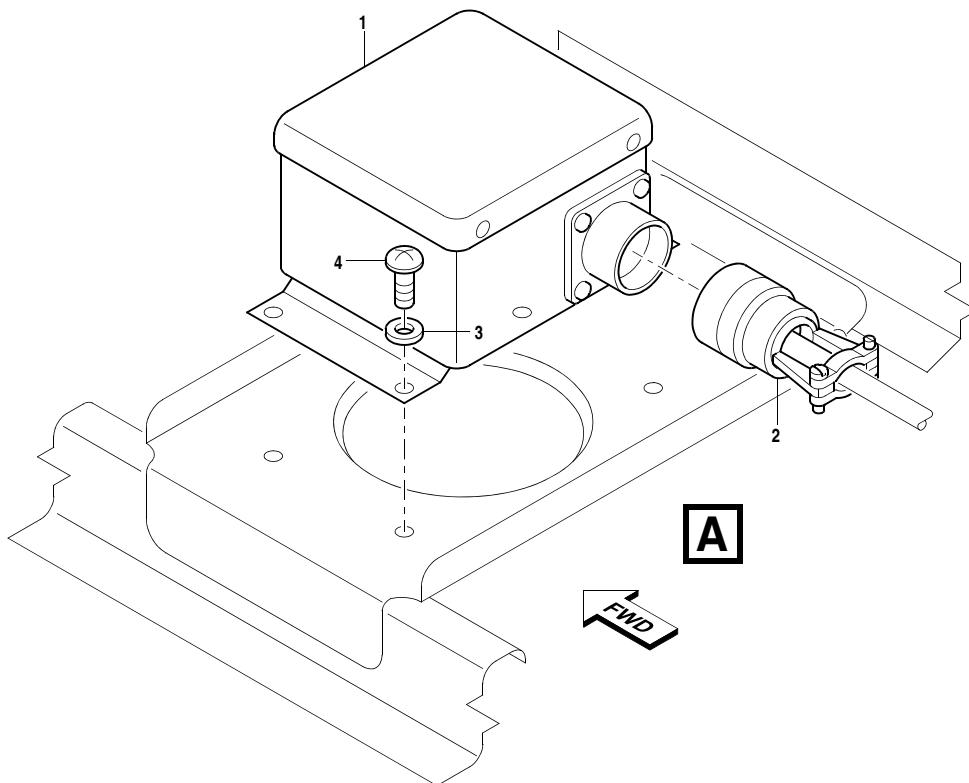
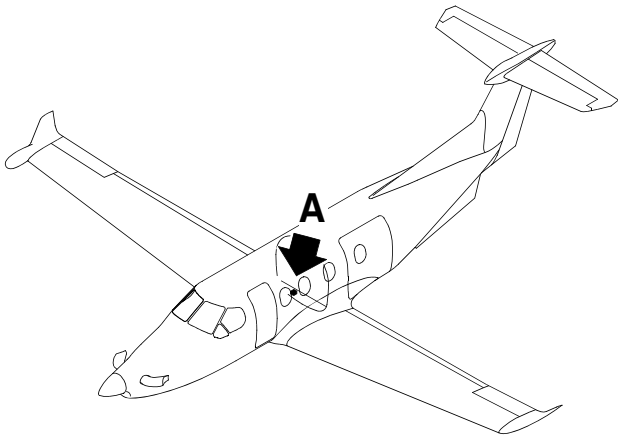
D. Close Up

- (1) Make sure that the work area is clean and clear of tools and other items.
- (2) Install the access panels 12FZ, 12GZ, 12HZ and 12IZ.
- (3) Install the passenger compartment carpets:
 - Executive interior, refer to AMM 12-A-25-21-04-00A-920A-A
 - Standard interior, refer to AMM 12-A-25-22-04-00A-920A-A.
- (4) Install the passenger compartment seats:
 - Executive interior, refer to AMM 12-A-25-21-01-00A-920A-A
 - Standard interior, refer to AMM 12-A-25-22-01-00A-920A-A.

E. Documentation

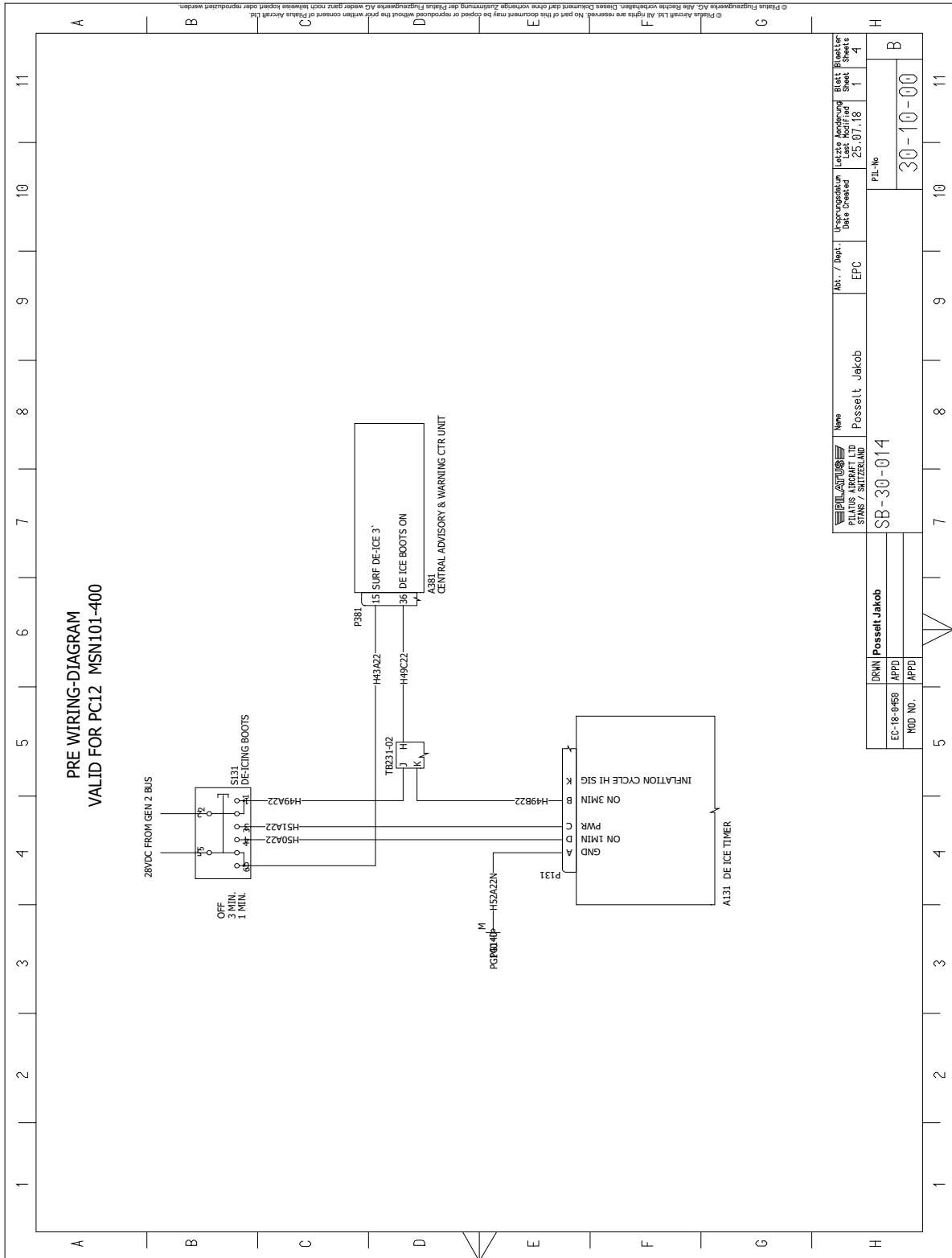
- (1) Make an entry in the Aircraft Logbook that this Service Bulletin has been incorporated.

NOTE: It is not necessary to provide a feedback sheet to Pilatus.

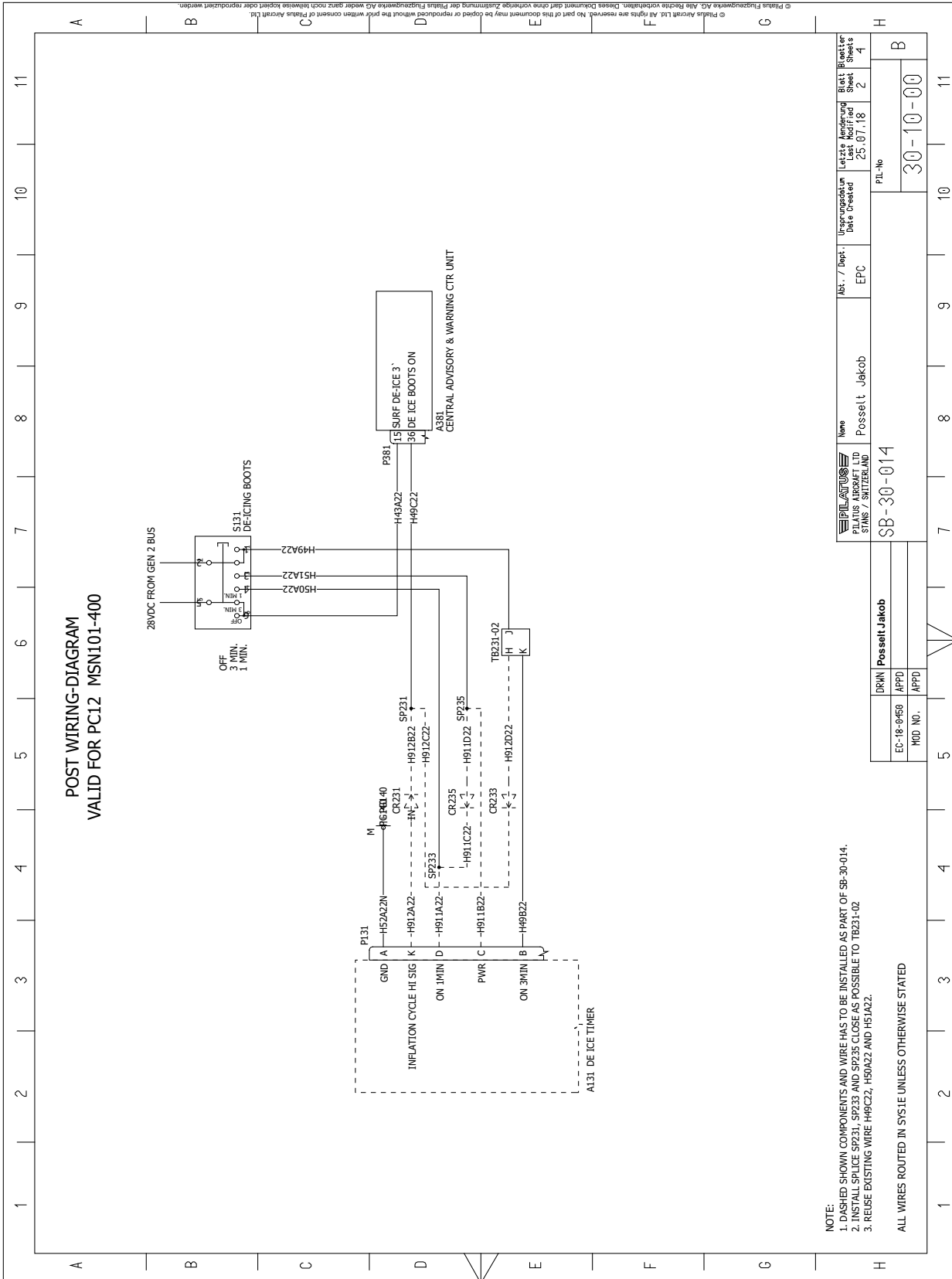


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De-ice System Timer - Removal/Installation
Figure 1



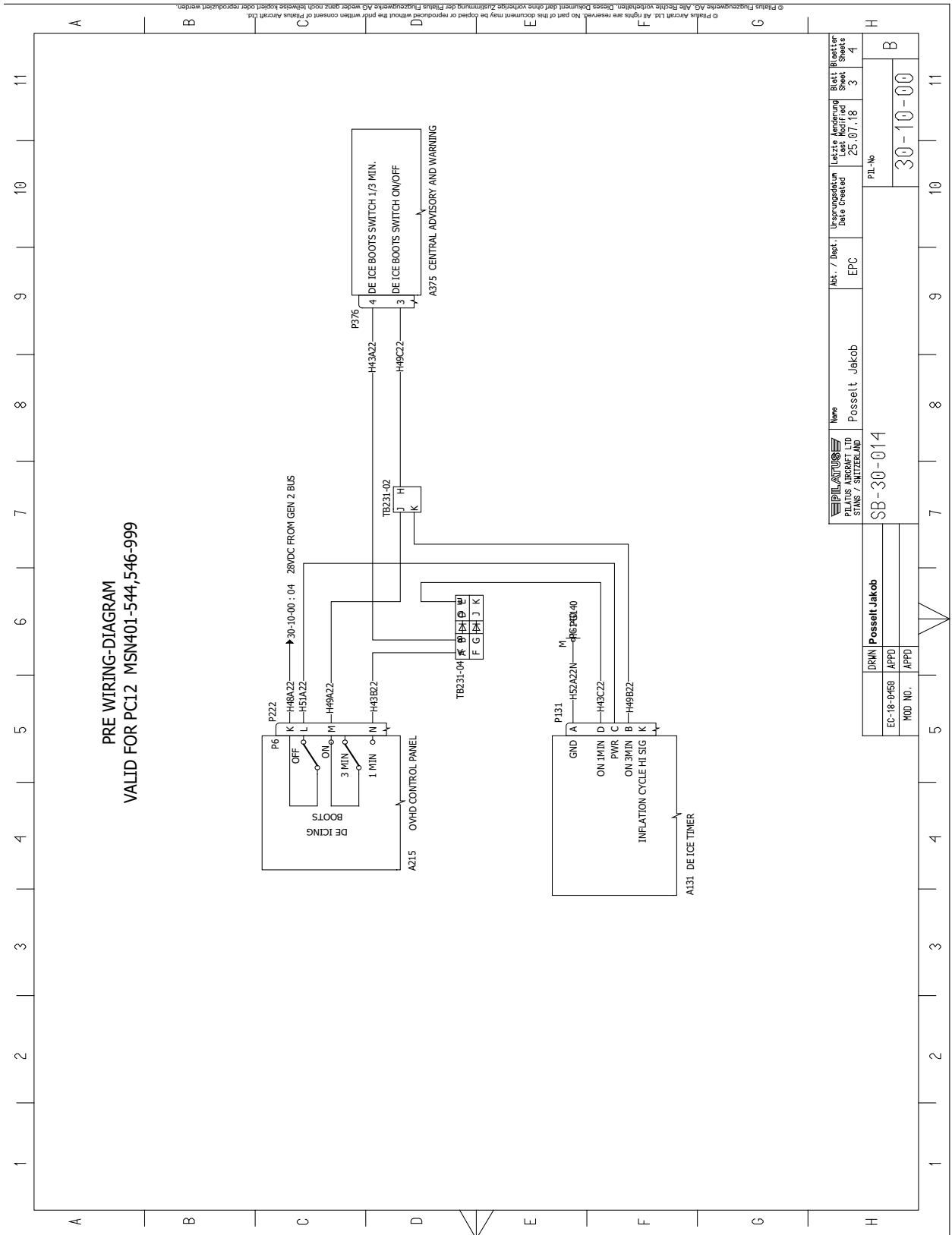
MSN 101 thru 400 - De-ice Boots - Pre SB 30-014 Wiring Diagram
Figure 2



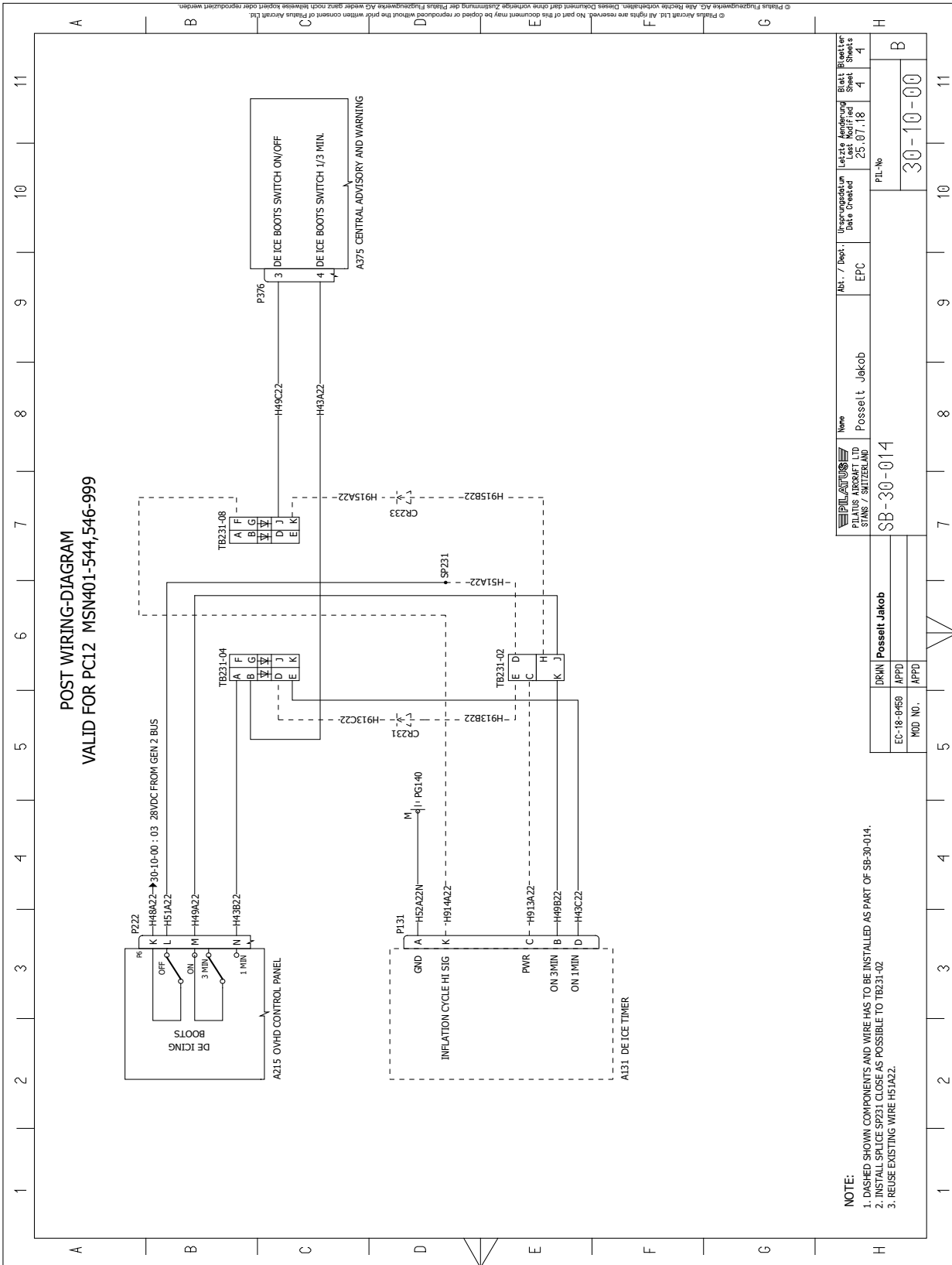
NOTE:
 1. DASHED SHOWN COMPONENTS AND WIRE HAS TO BE INSTALLED AS PART OF SB-30-014.
 2. INSTALL SPLICE SP231, SP233 AND SP235 CLOSE AS POSSIBLE TO TB231-02.
 3. REUSE EXISTING WIRE H9C22, H5A22 AND H51A2.

DRWN	Posselt Jakob	Appr	
EC-18-0450	APPD		
MOD NO.	APPD		
PILATUS PILATUS AIRCRAFT LTD STANGE / SWITZERLAND		Name	Posselt Jakob
Abt. / Dept.	EPC	USC/Service Unit Date Created	25.07.18
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MSN 401 thru 544, MSN 546 thru 999 - De-ice Boots - Pre SB 30-014 Wiring Diagram
Figure 4



MSN 401 thru 544, MSN 546 thru 999 - De-ice Boots - Post SB 30-014 Wiring Diagram
Figure 5