

SUBJECT: Modification of Maintenance Box, Type MTBX07

To all Customers, Operators and Service Centers:

Date: Feb 05/18

Effectivity: All affected serial numbers according to Emca Electronic Modification Instruction 20478B01 (latest revision) of the ground equipment Maintenance Box, Type MTBX07 (Pilatus P/N 985.99.99.610), Manufacturer P/N 20478 used for PC-12/47E aircraft.

This Service Letter is issued to draw attention to Emca Electronic Modification Instruction 20478B01 (latest revision).

Emca Electronic has found that the maintenance box underfloor / cabin heating test selector resistors at positions 3° and 12° have been interchanged. The aim of the modification instruction is to identify and transpose any occurrence of this interchange.

The modification instruction concerns the maintenance box currently used to maintain the Pilatus PC-12/47E aircraft and must be carried out before the next use of the equipment.


Refer to Emca Electronic Modification Instruction 20478B01, paragraph 2. Scope, for the affected maintenance box serial numbers.

Warranty: Pilatus Aircraft Ltd. agrees to cover the cost for labor (one hour) of affected serial numbers on approval of a warranty claim, provided this change is accomplished by an authorized Service Center within 12 months from the original issue date of this Service Letter.

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

Attachment: Emca Electronic Modification Instruction 20478B01.

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	Modification Instruction	20478B01
Modification PC-12E Maintenance Box, MTBX07		

	Name	Funktion	Datum / Visum
Created	Vince Cobham	Head of Engineering	24.10.2017 / CoV
Approved	Beat Otzenberger	Head of Quality	24.10.2017 / OtB

Changes

Rev	Chapter	Changes	Date	Visa
-	All	First Edition	24.10.2017	CoV

Modification PC-12E Maintenance Box, MTBX07

1. Purpose

It has been found that the Underfloor / cabin heating test selector resistors at positions 3° and 12° have been interchanged. The aim of this instruction is to identify and transpose any occurrence of this interchange.

2. Scope

This modification instruction concerns the following ground equipment currently used to maintain the Pilatus PC-12 and must be carried out before the next use of the equipment.

Emca Part Number 20478
 Pilatus Part Number 985.99.99.610

Affected Serial Numbers:

123034	123212	123213	123214	123215	123216	123217	123227	123228	123229
123230	123341	123342	123343	123344	123345	123346	123347	123348	123349
123350	123406	123407	123408	123409	123410	124625	124626	124627	124785
125037	125143	125144	125145	125146	125147	125178	125284	125295	125296
125462	125463	125464	125579	125580	125581	125583	125649	125685	125686
125921	125922	125948	125949	125950	126151	126152	126182	126183	126341
126342	126343	126374	126375	126861	126862	127316	127317	127518	127519
127773	127774	127775	127776	127777	127828	127829	127830	128268	128269
128270	128299	128300	128301	128302	128303	128502	128503	128504	128810
128811	128812	128813	128814	129146	129147	129148	129399	129400	129401
129402	129403	129464	129465	129466	129467	129468	129504	129505	129506
129507	129508	129509	129510	129511	129512	129810	129811	129812	129873
129874	129875	129977	129978	129979	130843	130844	130845	131367	131368
131629	131630	131631	131732	131733	131734	132186	132187	132188	132577
132578	132579	132580	132581	132945	132946	132947	133561	133562	133563
133591	133592	133593	133594	133595	134063	134064	134065	134066	134067
134558	134559	134560	134561	134562	135068	135069	135070	135071	135072
135073	135074	135075	135076	135077	136524	136525	136526	136527	136528
137014	137015	137016	137017	137018	137879	137880	137881	137882	

Serial Numbers 137883 and up, modification was implemented during manufacture

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Picture 1: Maintenance Box

Modification PC-12E Maintenance Box, MTBX07**3. Test Equipment**

The following test equipment (or equal) shall be used:

- 1x Ohmmeter
- 1x Voltmeter
- 1x Scalpel
- 1x Torx screwdriver T-10
- 1x Slotted Screwdriver 5.5mm
- 1x Spanner 10mm
- 1x Soldering Iron & Solder
- 1x 28VDC power supply
- 1x Permanent black marker pen

4. Identification

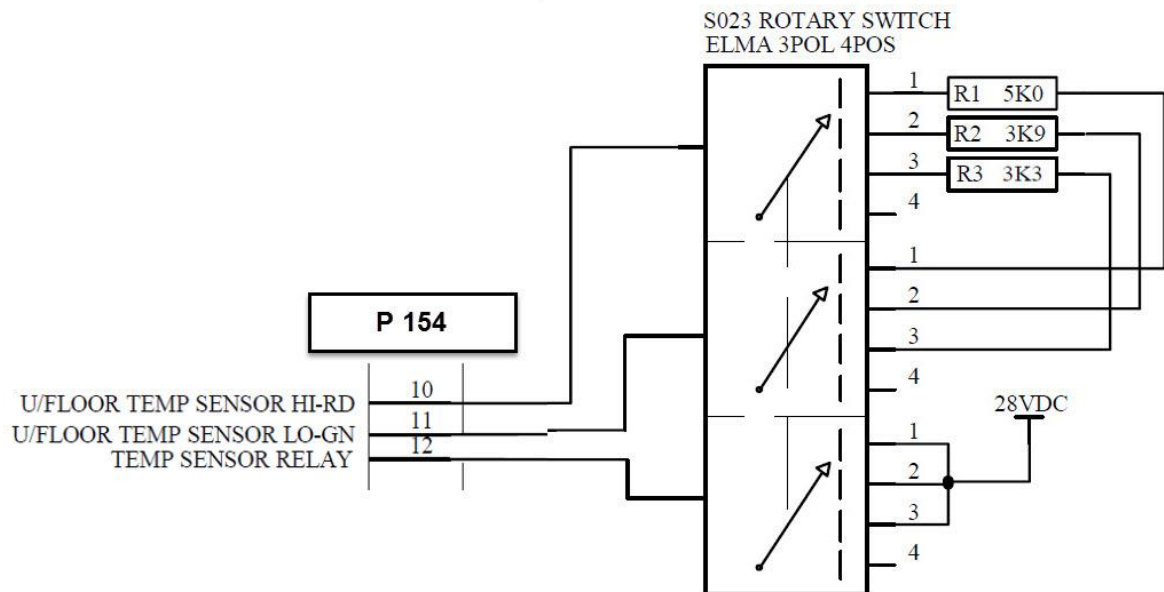
- 4.1 Have the ohmmeter ready to measure Pins across P154/10 and P154/11
- 4.2 Move the Underfloor/ cabin heating test rotary switch to the "Temp=12°" position
 - 4.2.1 Value should be 3.3KΩ
- 4.3 Move the Underfloor/ cabin heating test rotary switch to the "Temp=3°" position
 - 4.3.1 Value should be 5KΩ

If the values at steps 4.2.1 and 4.3.1 are correct the modification has already been implemented, proceed to Step 7 Documentation of this instruction. If the values are not correct, proceed to step "5 Modification" of this instruction.

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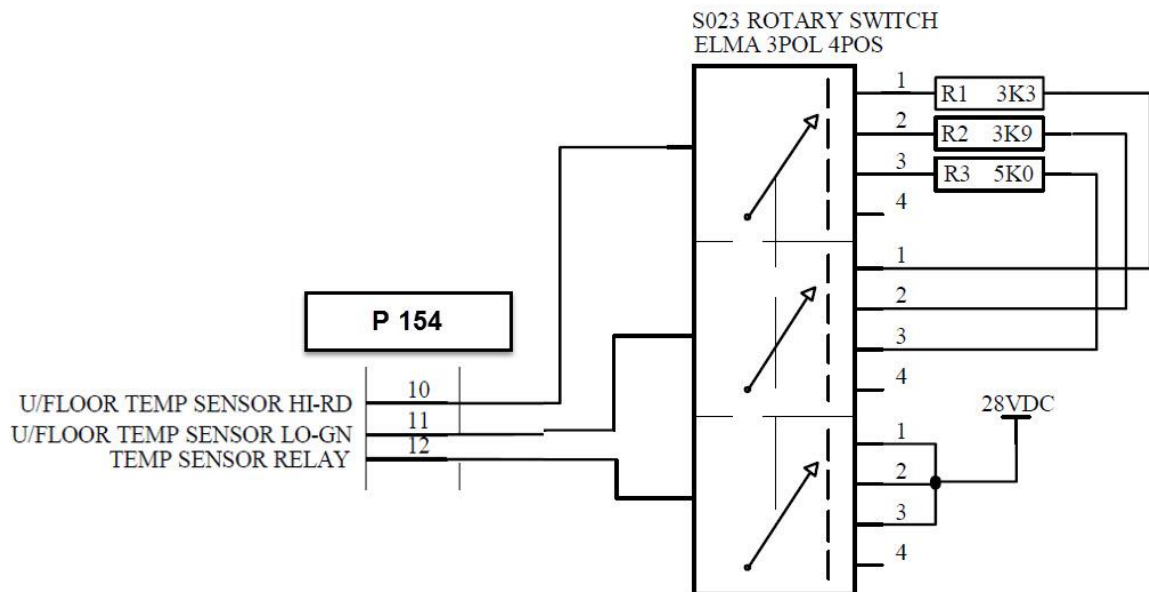
H/F SENSOR TEMP	Resistance across pins 10 – 11 of P154	
	Unit affected by the problem	Correct value
OFF	Open circuit	Open circuit
TEMP = 3° = R3	3.3k	5 k
TEMP = 8° = R2	3.9 k	3.9 k
TEMP = 12° = R1	5 k	3.3 k

Table 1: Overview of Resistor Values



Excerpt schema **before** the modification

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Excerpt schema **after** the modification

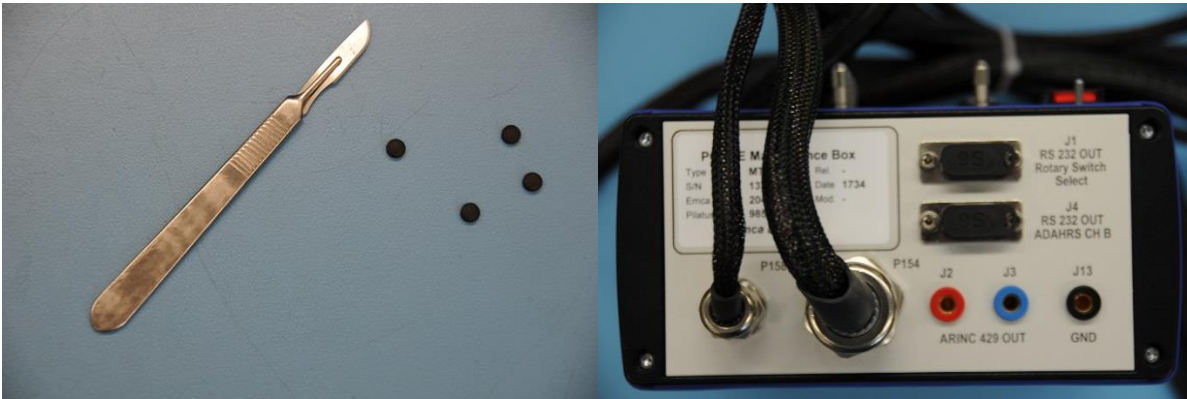
5. **Modification**

Envisioned time required to complete this modification: 30-60 minutes



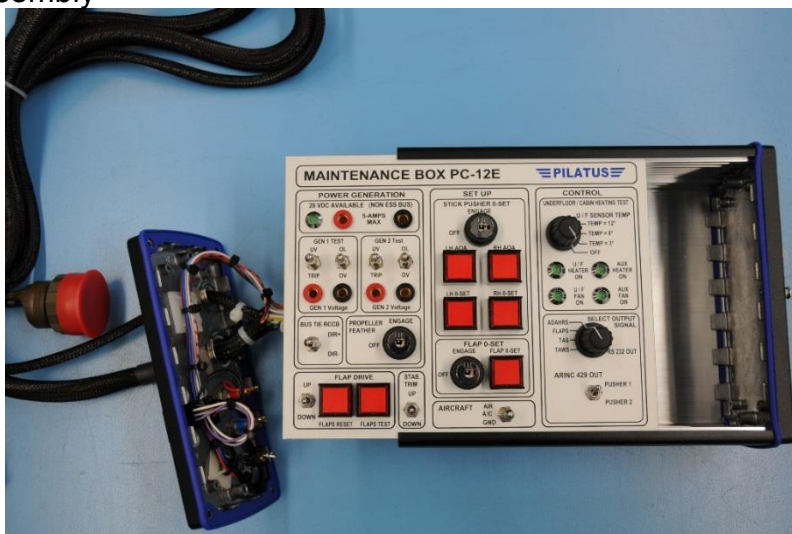
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Step 5: Side Plate



Step 5.1 & 5.2: Remove caps and screws

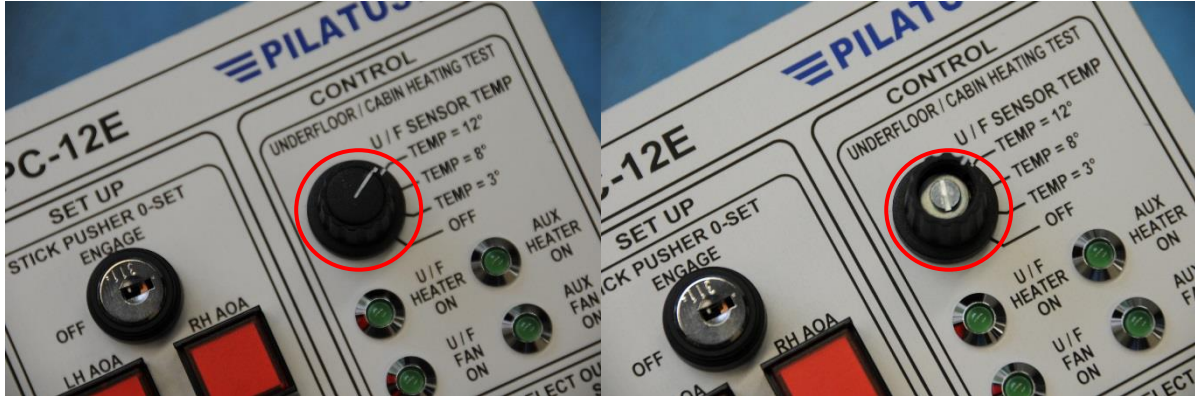
- 5.1 On the connector side plate, remove the four blanking caps with a scalpel. Retain blanking caps for reassembly
- 5.2 On the connector side plate, remove the four Torx screws. Retain screws for reassembly



Step 5.3: Remove side plate & front plate

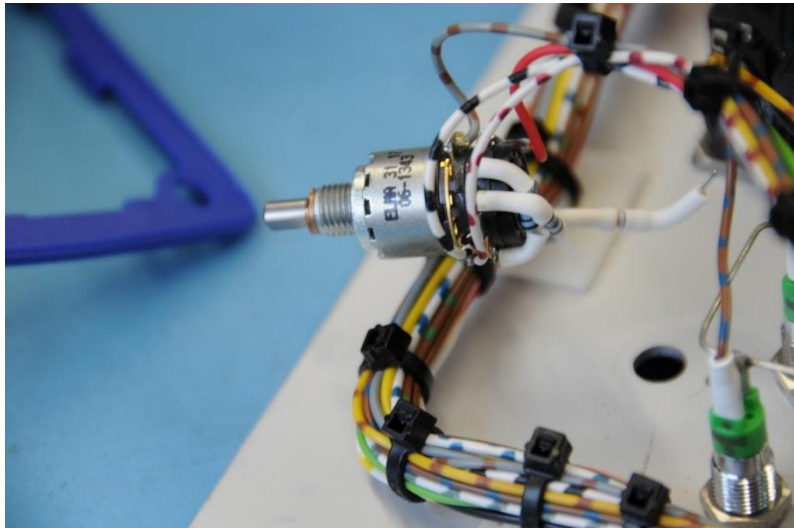
- 5.3 Gently pull the side plate and blue gasket away. Slide the front plate out of the lower casing

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Picture 5.4.1: Remove switch cover

- 5.4 It is not necessary, but easier to remove the Underfloor/ cabin heating control switch. Before proceeding note both the orientation of the switch body and the selected position. This information will be required for correctly reassembling the switch. Retain all items for reassembly
- 5.4.1 Remove the top cover using a scalpel
 - 5.4.2 Loosen and remove the screw using the slotted screwdriver
 - 5.4.3 Remove the plastic body
 - 5.4.4 Remove the bronze spindle grip
 - 5.4.5 Loosen and remove the panel nut using the 10mm spanner

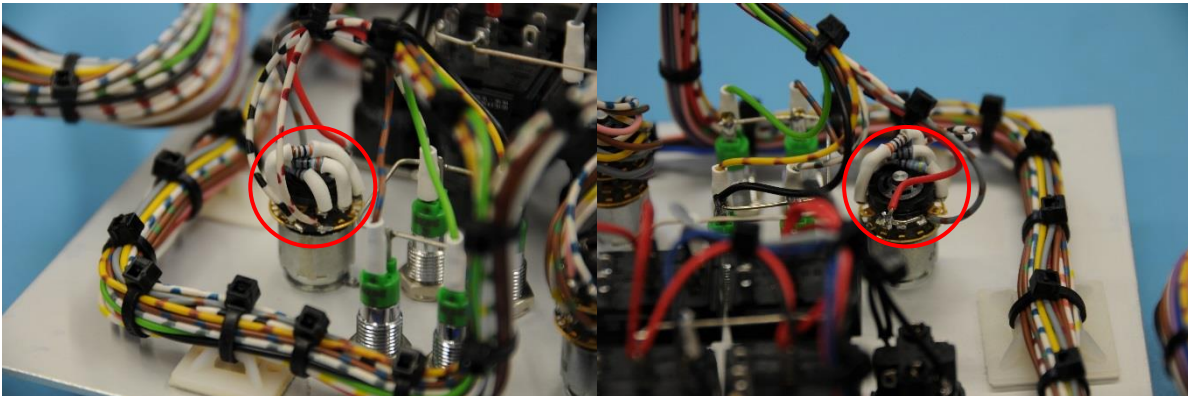


5.4.6: Remove switch from front plate

- 5.4.6 Remove switch from front plate
- 5.4.7 Remove the panel keyway tab washer from the switch

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- 5.5 On the underside of the Underfloor/ cabin heating switch are three resistors. The resistor soldered between pins 3 and 7 must be transposed with the resistor soldered between pins 1 and 5. De-soldering one leg of the remaining resistor, between pins 2 and 6, will aid access



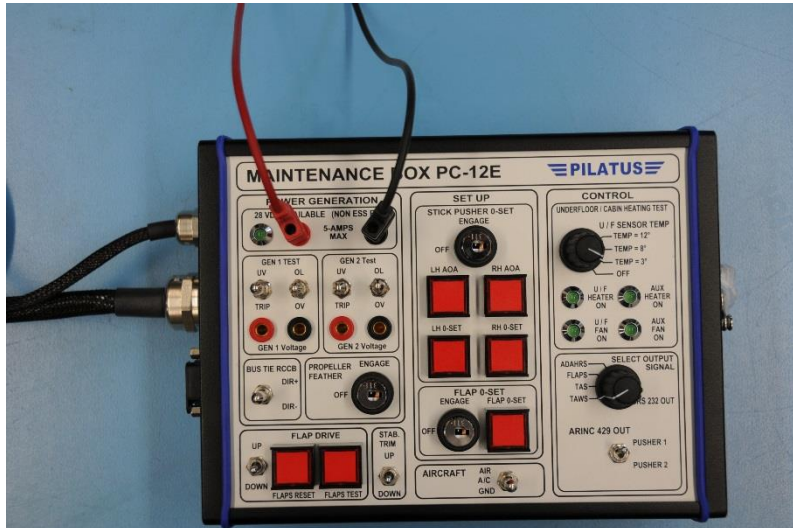
Step 5.5: Identify the resistors

- 5.6 Refit the switch to the switch panel (reverse of 5.4.1 to 5.4.7). Ensure that the switch body is correctly orientated and that the switch cover is correctly aligned with the selected position as previously noted in step 5.4
- 5.7 Perform steps 4.1 to 4.3.1 of this instruction. If values are correct proceed to step 5.8. If not, check the solder points according to the wiring diagram in section 4 “excerpt schema **after** the modification” of this document.
- 5.8 Refit front plate and side plate in lower casing. Ensure side plate wiring loom does not interfere with the side plate
- 5.9 Screw down side plate. Ensure blue gasket is correctly positioned and screws are not cross threaded
- 5.10 Refit blanking caps to the four screws

6. Testing

- 6.1 Carry out steps 4.1 to 4.3.1 of this instruction
- 6.2 Move the Underfloor/ cabin heating test rotary switch to the “Temp=8°” position
- 6.2.1 Using an ohmmeter; value should be 3.9K Ω

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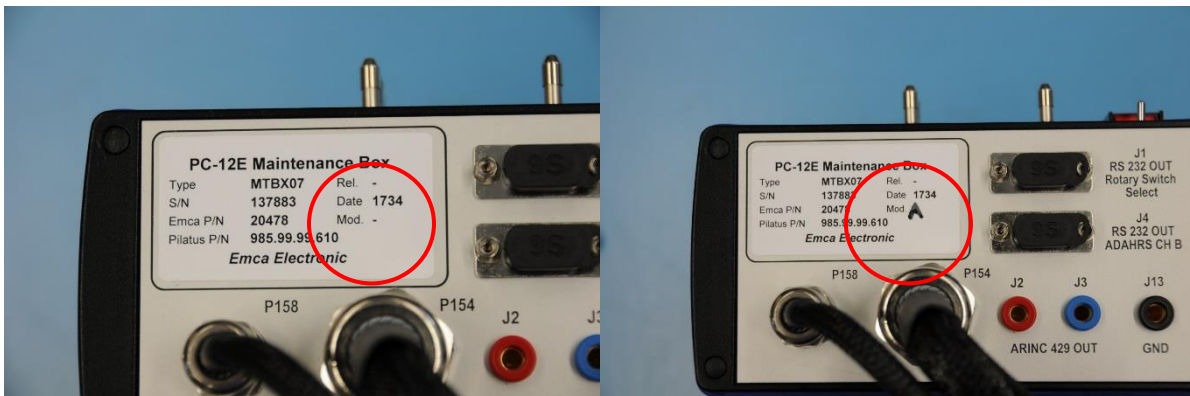


6.3: Apply 28VDC

- 6.3 Apply 28VDC, current limit $<0.2A$, to the “5-AMPS MAX” banana connectors on the switch panel
- 6.4 Using a voltmeter, check:
 - 6.4.1 0VDC at P154/10 with Underfloor/ cabin heating test switch in each position
 - 6.4.2 0VDC at P154/11 with Underfloor/ cabin heating test switch in each position
 - 6.4.3 28VDC at P154/12 with Underfloor/ cabin heating test switch in each position

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7. Documentation



7.1: Modify Equipment label

7.1 On the side plate is the equipment label. Using a permanent black marker pen change Mod. From “-“ to “A”

7.2 Note the serial number of the unit and contact EMCA at info@emca.ch stating the unit has been checked and modification 20478B01 carried out