

Service Bulletin No: 42-010
Modification No: EC-19-0591

Ref No: 81
ATA Chapter: 42

**INTEGRATED MODULAR AVIONICS - UTILITY MANAGEMENT SYSTEM
UPGRADE THE UTILITY MANAGEMENT SYSTEM TO BUILD 7.3**

1. Planning information

A. Effectivity

PC-24 aircraft MSN 101 thru MSN 169.

This modification will be incorporated on MSN 170 and subsequent during production.

B. Concurrent requirements

Service Bulletin 42-005 - Upgrade the Utility Management System to Build 7 (Latest Revision).

C. Reason

To upgrade the Utility Management System (UMS) to Build 7.3. The UMS is to be upgraded to provide minor bug fixes for a variety of systems across the aircraft which improve failure case handling, reduce spurious CAS, and improve system reliability and fault detection. Additionally, changes to inter-DCPU's ethernet communication failure case handling and detection are included.

UMS Build 7.3 incorporates the updates that follow:

- **UMS:**
Improvements to detection of databus failures
- **Environmental Control System (ECS):**
System control improvements to reduce spurious alerts
- **Primary Electric Power System (PEPS):**
Improvements to system fault detection and synoptic displays
- **Secondary Electric Power System (SEPS):**
Improvements to failure case handling
- **Fuel:**
Minor correction to communication protocol with refuel/defuel panels
- **Ice and rain Protection System (IPS):**
Improvements to control logic improving windshield relay lifespan. Improvements to failure case handling
- **Landing Gear:**
Reduction of spurious CAS
- **Maintenance:**
Additional parameters made available to ease troubleshooting.

D. Description

This Service Bulletin gives the data and instructions necessary to update the UMS to Build 7.3.

E. Compliance

Mandatory.

This Service Bulletin must be embodied on all affected aircraft by 03 April 2020.

F. Approval

The technical content of this Service Bulletin 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.

G. Copyright and legal statement

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H. Manpower

Description	Man-Hours
Preparation	1.00
Modification	6.00
Requirements after job completion	1.00
TOTAL MAN-HOURS	8.00

I. Weight and balance

Not changed.

J. Electrical load change data

Not changed.

K. Software

The UMS software is updated to Build 7.3.

L. References

Aircraft Maintenance Manual (AMM):

PC24-A-E20-10-0003-00A-913A-A

PC24-A-E24-00-0000-00A-913A-A

PC24-A-E35-10-0000-00A-340A-A

PC24-A-E45-45-0000-00A-750A-A.

M. Publications affected

Airplane Flight Manual (AFM).

Aircraft Maintenance Manual (AMM).

Flight Crew Operating Manual (FCOM).

N. Interchangeability of parts

Not interchangeable.

2. Material information

A. Material - Price and availability

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

NOTE: Part numbers given in this Service Bulletin are correct at the time of approval. Pilatus Aircraft Ltd. reserves the right to change the part numbers as necessary. Part numbers of items delivered with a kit are correct when the kit is dispatched. This could lead to differences between those part numbers quoted in a Service Bulletin and a kit if parts are superseded. Operators are requested to check the Illustrated Parts Data (IPD) for delivered parts that differ from those listed in the Service Bulletin materials kit list.

Operators are requested to advise Pilatus Aircraft Ltd. of the Manufacturer's Serial Number (MSN), the flying hours and landings of aircraft that are allocated for this Service Bulletin.

B. Warranty

Software will be supplied free of charge and credit for labour will be issued for all affected aircraft on approval of a warranty claim, provided the work is accomplished by an authorized Service Center within 6 months from the issue date of this Service Bulletin.

C. Material necessary for each aircraft

Software Kit number	Price	Availability
542.04.24.061	Contact as above	Approximately 3 months

(1) Software to download from MyPilatus

NOTE: To download the Software Kit go to: <https://mypilatus.pilatus-aircraft.com/>

SB 42-010 Software Kit number 542.04.24.061:

New part No.	Description	Old part No.	Qty	Disp. code	Fig	Item
542.04.24.039	PC-24 UMS Build 7.3 OFP	-	1	N	-	-
		542.04.24.030	1	D	-	-
542.04.24.038	PC-24 UMS Build 7.3 CTP Baseline	-	1	N	-	-
		542.04.24.020	1	D	-	-

Disposition Codes: D - Discard / N - New

New part No.	Description	Old part No.	Qty	Disp. code	Fig	Item
542.04.24.025	Settings File Configuration 4 (Small oxygen bottle, Fuel units lbs, CVFDR, Ni-Cad battery)	See Note 1	1	-	-	-
		542.04.24.010	1	-	-	-
542.04.24.026	Settings File Configuration 5 (Large oxygen bottle, Fuel units lbs, CVR_FDR, Ni-Cad battery)	See Note 1	1	-	-	-
		542.04.24.011	1	-	-	-
542.04.24.027	Settings File Configuration 6 (Small oxygen bottle, Fuel units lbs, CVR_FDR, Ni-Cad battery)	See Note 1	1	-	-	-
		542.04.24.012	1	-	-	-
542.04.24.028	Settings File Configuration 7 (Large oxygen bottle, Fuel units lbs, CVFDR, Ni-Cad battery)	See Note 1	1	-	-	-
		542.04.24.013	1	-	-	-

Disposition Codes: D - Discard / N - New

NOTE 1: As part of the software upgrade, the settings file must be loaded again. Determine the existing settings file part number, then load the settings file with the same part number again. Refer to Para **3.B.(1)(d)**.

(2) Additional material to be procured

New part No.	Description	Old part No.	Qty	Disp. code	Fig	Item
513.04.24.013	FROG F1.2	-	1	N	-	-
		513.04.24.010	1	D	-	-
513.04.24.014	SPORTVIEWWA ICD UMS Build 7.3	-	1	N	-	-
		513.04.24.008	1	D	-	-

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

D. Operator supplied materials

Not applicable.

E. Material necessary for each spare

Not applicable.

F. Re-identified parts

Not applicable.

G. Tools and equipment

Tools and equipment	Recommended Pilatus part
Laptop computer: <ul style="list-style-type: none"> • Minimum 2.0GHz 64-bit (x64) quad-core (4 cores, 4 threads or better) processor (Intel Core i3 or better, AMD Ryzen 3 or better) • 8 GB RAM • 128 GB Disk space • DirectX 9 graphics device with WDDM 1.0 or higher driver. 	Local supply
CAT5E ethernet cable	Local supply
PC-24 Dataloader	513.04.24.001
Ground Power Unit (GPU)	Local supply

3. Accomplishment instructions

WARNING: BE CAREFUL WHEN YOU DO WORK ON THE ELECTRICAL SYSTEM OR A SYSTEM THAT USES THE ELECTRICAL POWER. MAKE SURE THAT IT IS SAFE BEFORE YOU APPLY ELECTRICAL POWER TO THE AIRCRAFT OR ENERGIZE THE AIRCRAFT ELECTRICAL SYSTEMS. THE ELECTRICAL POWER CAN CAUSE DEATH OR INJURY TO PERSONNEL AND CAUSE DAMAGE TO EQUIPMENT.

A. Preparation

- (1) Obey the safe maintenance practices as necessary. Refer to AMM, PC24-A-E20-10-0003-00A-913A-A.
- (2) Energize the aircraft electrical system. Refer to AMM, PC24-A-E24-00-0000-00A-913A-A.

B. Modification

- (1) Determine the settings file Part Number:
 - (a) On the CMC MAIN MENU select EXTENDED MAINTENANCE.
 - (b) On the EXTENDED MAINTENANCE MENU select CONFIGURATION.
 - (c) In the (42-20) UTILITY MANAGEMENT SYSTEM LH, find the DCPU1 Ch A settings file part number (DCPU1A SET PN).
 - (d) Make a record of the settings file Part Number. Use the table below to determine the configuration and part number of the settings file:

Settings file Config. and P/N
Configuration 4 (Small oxygen bottle, Fuel units lbs, CVFDR, Ni-Cad battery) (P/N 542.04.24.025 or P/N 7H-10550-0F04) Folder: 5420424025_Set_-0F04 Files: 7H10550-0F04.bin and 7H10550-0F04.s19
Configuration 5 (Large oxygen bottle, Fuel units lbs, CVR_FDR, Ni-Cad battery) (P/N 542.04.24.026 or P/N 7H-10550-0F05) Folder: 5420424026_Set_-0F05 Files: 7H10550-0F05.bin and 7H10550-0F05.s19
Configuration 6 (Small oxygen bottle, Fuel units lbs, CVR_FDR, Ni-Cad battery) (P/N 542.04.24.027 or P/N 7H-10550-0F06) Folder: 5420424027_Set_-0F06 Files: 7H10550-0F06.bin and 7H10550-0F06.s19
Configuration 7 (Large oxygen bottle, Fuel units lbs, CVFDR, Ni-Cad battery) (P/N 542.04.24.028 or P/N 7H-10550-0F07) Folder: 5420424028_Set_-0F07 Files: 7H10550-0F07.bin and 7H10550-0F07.s19

PC-24

- (2) On the system summary page, make sure that the flaps position indicator shows 8° before you do the UMS software load.
- (3) Unzip the PC-24 Service Bulletin 42-010 Software Kit, P/N 542.04.24.061 to a known location on the laptop computer.
- (4) Do a UMS software load:

NOTE: When you do the “Load the UMS software” procedure in the AMM Data Module (PC24-A-E45-45-0000-00A-750A-A) referenced below, it is also necessary to do the three function tests that are referenced within:

In the Flap control function test, it is only necessary to do the specified tests that follow:

- Flaps APCM signal verification
- Flaps normal operation function test
- Flaps emergency function test.

NOTE: It is not necessary to do the flaps rigging.

In the Spoilers control function test, it is only necessary to do the specified tests that follow:

- Spoilers APCM signal verification
- Function test of the spoilers control.

NOTE: It is not necessary to do the spoilers rigging.

Do the complete function test of the horizontal stabilizer trim indication.

- (a) Do the “Load the UMS software” procedure to update to UMS Build 7.3, and do the function tests referenced within. Refer to AMM, PC24-A-E45-45-0000-00A-750A-A:

- 1 Select all four DCPU’s with the applicable checkboxes in the data loader.
- 2 Select the software to load for Ch A and Ch B in the data loader. Push the buttons next to the checkboxes to select the files that follow:

Channel A	Folder	File
OFP 7H09299	5420424039_OFP_B7.3.1	OFP_REL-CN.pkg
CTP 7H09338	5420424038_CTP_-1D00	7H09338-1D00.bin
Settings 7H10550	5420424XXX_Sett_-0FXX Refer to Folder and File as per Para. 3.B. (1)(d)	7H10550-XXXX.bin

Channel B	Folder	File
P1 OFP 7H09301	5420424039_OFP_B7.3.1	7H09301-CX.s19

P2 OFP 7H09303	5420424039_OFP_B7.3.1	7H09303-CX.s19
CTP 7H09338	5420424038_CTP_-1D00	7H09338-1D00.s19
Settings 7H10550	5420424XXX_Sett_-0FXX Refer to Folder and File as per Para. 3.B.(1)(d)	7H10550-XXXX.s19

3 When you do a check of the software part numbers, make sure that the part numbers that follow are shown.

- Ch A Item 2 APP: 7H-09830-CN
- Ch A Item 3 APP: 7H-09299-CN
- Ch A Item 8 APP: 7H-09338-1D00
- Ch A Item 9 APP: 7H-10550-0F(*)
- Ch B P1 OFP: 09301-CX
- Ch B P1 CTP: 09338-1D00
- Ch B P1 Settings: 10550-0F(*)
- Ch B P2 OFP: 09303-CX

NOTE: (*) denotes the settings file Config. number (04, 05, 06 or 07). Refer to Folder and File, Para. **3.B.(1)(d)**.

(5) Do the operation test of the temperature and pressure transducer for the crew oxygen system. Refer to AMM, PC24-A-E35-10-0000-00A-340A-A.

NOTE: In the AMM Crew oxygen system - Function test procedure referenced above, it is only necessary to do the "Operation test of the temperature and pressure transducer" section.

(6) Do a check on the CMC to make sure that there are no active maintenance messages and CAS alerts:

- (a) On the CMC MAIN MENU, select MAINTENANCE MESSAGES.
- (b) On the MAINTENANCE MESSAGES MENU, select ACTIVE.
- (c) Select MAINT MSG to get access to the ACTIVE MAINTENANCE MESSAGES.
- (d) In ATA 31, make sure that the "CVFDR MAINT FAULT [CVFDR]" maintenance message is not active.

(7) On the Multi-Function Display (MFD) CAS window, make sure that the CAS alerts that follow are not shown:

- CVR Fail
- FDR Fail
- CVR+FDR Fail.

C. Requirements after job completion

- (1) De-energize the aircraft electrical system. Refer to AMM, PC24-A-E24-00-0000-00A-913A-A.
- (2) Make sure that the work area is clean and clear of tools and other items.

D. Documentation

- (1) Make sure that you have the latest Issue and Revision of AFM 02371.
- (2) Make an entry in the Aircraft Logbook and AFM 02371 to record the incorporation of this Service Bulletin.
- (3) Make sure that the Aircraft Logbook shows any new Pilatus Part Number(s) and/or Serial Number(s), as applicable.
- (4) Inform CAMP of the incorporation of this Service Bulletin and any new Pilatus Part Number(s) and/or Serial Number(s), as applicable. Send the completed software feedback sheet to: fax@campsystems.com

Software feedback sheet for accomplishment of SB 42-010

The purpose of this software feedback sheet is to provide CAMP with the current information on each individual PC-24 aircraft.

Please complete the grey cells as appropriate using black ink and block letters.

Print out and send the completed software feedback sheet to: fax@campsystems.com

Aircraft MSN		Aircraft Registration		Total Airframe Hours	
Owner				Total Landings	
Operator					
Service Center					

Software Information

Description		PC-24 UMS Build 7.3 OFF	
CAMP Code, Task Number		PC24CA00800011	
Old Part Numbers		New Part Numbers	
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N
542.04.24.030	-	542.04.24.039	-

Description		PC-24 UMS Build 7.3 CTP Baseline	
CAMP Code, Task Number		PC24CA00800012	
Old Part Numbers		New Part Numbers	
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N
542.04.24.020	-	542.04.24.038	-

Please identify your aircraft status by ticking the correct option

<input type="checkbox"/>	Option A	Description	PC-24 UMS SETTINGS CONFIG 4	
CAMP Code, Task Number		PC24CA00800013		
Old Part Numbers		New Part Numbers		
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N	
542.04.24.010	-	542.04.24.025	-	

OR

<input type="checkbox"/>	Option B	Description	PC-24 UMS SETTINGS CONFIG 5	
CAMP Code, Task Number		PC24CA00800013		
Old Part Numbers		New Part Numbers		
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N	
542.04.24.011	-	542.04.24.026	-	

OR

Software feedback sheet

Software feedback sheet cont'd.

<input type="checkbox"/> Option C	Description	PC-24 UMS SETTINGS CONFIG 6	
CAMP Code, Task Number		PC24CA00800013	
Old Part Numbers		New Part Numbers	
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N
542.04.24.012	-	542.04.24.027	-

OR

<input type="checkbox"/> Option D	Description	PC-24 UMS SETTINGS CONFIG 7	
CAMP Code, Task Number		PC24CA00800013	
Old Part Numbers		New Part Numbers	
Pilatus P/N	Supplier P/N	Pilatus P/N	Supplier P/N
542.04.24.013	-	542.04.24.028	-

<input type="checkbox"/> We have embodied/accomplished this SB	<input type="checkbox"/>	
<input type="checkbox"/> We will not embody/accomplish this SB	<input type="checkbox"/>	
The undersigned confirms the accomplishment of this Service Bulletin		
Date of accomplishment	Name	Signature
Comments (procedure, kit quality, suggested improvements, etc.)		

Software feedback sheet