

METHODS OF DATA PROCESSING PROCEDURE FOR AMU1.01 ACCELERATION MONITORING UNIT

(AIRCRAFT Z 40 series)



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1 ACCOMPANYING DOCUMENTS FOR AMU1; AMU1C PROGRAM FOR DOWNLOADING DATA FROM AMU1

NEW AIRCRAFT

The documentation supplied with the aircraft will include CD-ROM with AMU1C licensed program, AMU1 interconnecting cable and the procedure of processing data measured by AMU1 (i.e. this document). The manufacturer will inform the operator about the procedure for downloading the AMU1 data.

AIRCRAFT IN OPERATION

The Acceleration Monitoring Unit will be installed by the manufacturer or an authorized service shop. After installation, the service shop will supply CD-ROM with AMU1C licensed program, AMU1 interconnecting cable for connecting and the procedure of processing data measured by AMU1 (i.e. this document). The manufacturer will inform the operator about the procedure for downloading the AMU1 data. The service shop will record the report of installation of AMU1 acceleration monitoring unit in the aircraft logbook.

1.1 AMU1C PROGRAM - INSTALLATION AND USAGE

1.1.1 Material

- | | |
|-------------------|--------------------------|
| 1) Program AMU1C | (Order No. 465100100002) |
| 2) Cabel AMU1-USB | (Order No. 465100100001) |

1.1.2 AMU1C Installation

- 1) Insert the CD-ROM into your PC/notebook.
- 2) Run install.bat from the CD-ROM. AMU1C program will be installed.
- 3) Eventual uninstallation of AMU1C software installation will be performed by deleting the AMU1C program directory.

1.1.3 Procedure

- 1) The aircraft is standing on ground in sheltered area and secured against spontaneous motion.
- 2) Interconnect PC (notebook) with AMU1 by supplied cable. Indication LED diode must indicate correct function of AMU1.
- 3) Run AMU1C.exe program (communication language will be set automatically in accordance with used operation system).

CAUTION

AMU1C.exe program for writing data in PC/notebook is implemented under Windows operating system only.

1.2 PROCEDURE FOR DOWNLOADING DATA BY AMU1C PROGRAM

Data are downloaded by a responsible and trained operator's employee whose training will be provided by the manufacturer's service department during the reception of the aircraft, or by an authorized service shop after initialization of the additionally installed AMU1.

- 1) The aircraft is standing on ground in sheltered area and secured against spontaneous motion.
- 2) Connect PC (notebook) to AMU1 by the supplied cable. The data are downloaded by the "Export data" button. The downloaded data has the *.amu suffix. Created file is written into the AMU1C program directory.

NOTES:

- The connector for connection cable AMU1-PC is located on the AMU1.
- The LED is located on the middle panel in the cockpit.
- LED signalization is activated by plugging the connection cable in the AMU1 - PC connector located on AMU1.
- LED signalization is activated by turning the main switch ON and engine starting.
- If the LED lights up every 2 seconds for 1 second, AMU1 works properly.
- One or two 0.125 sec flashes every 2 seconds or continuously lighting LED indicates failure of AMU1 unit.
- One or two 0.125 sec flashes every 2 seconds or continuously lighting LED indicates failure of AMU1 unit.

1.3 SENDING OF DOWNLOADED INITIALIZED FILES FROM ACCELERATION MONITORING UNIT; PROGRAM AMU1C

The operator must send the data file downloaded from AMU1 unit immediately to ZLIN AIRCRAFT a.s. for analysis, by email (safelife@zlinaircraft.eu) or by web interface (user login - www.zlinaircraft.eu). Data downloaded from AMU1 unit must be accompanied by the extract from the aircraft logbook related to the instant of AMU1 data download, which will include, see. Appendix No.1:

- aircraft type
- aircraft serial number
- aircraft registration mark
- total flight hours from first aircraft flight *
- AMU1 intervention time *
- time and succession of aircraft wings installation *
- total time of flights in ACROBATIC category from last new wings installation *
- total time of flights in UTILITY category from last new wings installation *
- total number landings from first aircraft flight *
- contact E-mail address, where will be sent evaluated results from AMU1 downloaded files

As a downloaded AMU1 files is comprehended following:

- coded data file with „amu“ suffix as a output of AMU1C program

* In case of obscurities, aircraft manufacturer will discuss them with the operator and then will determine different instant from which total times and total numbers of landings will be counted.

2 SENDING OF DOWNLOADED DATA FILES FROM ACCELARETION MONITORING UNIT TO THE MANUFACTURER

Operator of the aircraft equipped with AMU1 unit must ensure that data from AMU1 to PC are downloaded and sent at:

- a) After new wing installation
- b) After replacement of conic pins and bushings for attaching the wings to the fuselage
- c) During 100 flight hours in 50 flight hour intervals and then always in 100 flight hours intervals, but not less than once a year
- d) During 50 flight hours in ACROBATIC and/or UTILITY category in 25 flight hour intervals and then always in intervals of 50 flight hours in ACROBATIC and/or UTILITY category, but not less than once a year
- e) The aircraft manufacturer can establish other interval based on the analysis of data downloaded from AMU1

The interval, which expires earlier, is effective.

**APPENDIX NO. 1 – REPORT FORM FOR AIRCRAFT LOGBOOK INFORMATION
BY AMU1 INITIALIZATION PROCESS (AMU1.01 – 02A/08)**

AMU1 ACCELERATION MONITORING UNIT INSTALLATION TO ZLIN AIRCRAFT

<u>1. Aircraft information</u>			
(1.1) Aircraft type:		(1.2) Aircraft serial No.:	
(1.3) Aircraft registration mark:		(1.4) Country:	
(1.5) Operator:			
(1.6) E-mail No.1:		(1.8) E-mail No. 3:	
(1.7) E-mail No. 2:		(1.9) E-mail No. 4:	
<u>2. Logbook information</u>			
(2.1) Total flight hours at AMU1 initialization:			
(2.2) Total number of landings at AMU1 initialization:			
(2.3) Total number of flight hours in acrobatic category since last wing installation till AMU1 initialization:			
(2.4) Total number of flight hours in utility category since last wing installation till AMU1 initialization:			
(2.5) Total number of flight hours in acrobatic and utility category since last wing installation till AMU1 initialization:			
(2.6) No. of wing installations / Total flight hours at time of wing installation:			
(2.12) Conic pins and bushings for attaching the wings to the fuselage:			
Some other components were replaced by the last wing installation:			
(2.13) Engine mount and fasteners for attaching to the fuselage and for attaching of the engine:			
(2.14) Stabilizer and fasteners for attaching to the fuselage:			
(2.15) The bolts connecting fuselage frame and rear part of the fuselage:			
(2.16) Stabilizer support struts and fasteners for attaching to the fuselage and to the stabilizer:			
<u>3. AMU1 initialization</u>			
(3.1) AMU1 serial No.:		(3.2) AMU1 software No. :	
(3.3) AMU1 initialization date:			
(3.4) Name:		(3.5) Signature:	
(3.6) AMU1 function verified:			
(3.7) Name:		(3.8) Signature:	
<u>4. AMU1 data was downloaded before hand-over to the operator; data stored on PC and sent to ZLIN AIRCRAFT</u>			
(4.1) Date of log to the aircraft logbook:			
(4.3) Name:		(4.4) Signature:	
<u>5. User instruction</u>			
It is hand over : a) AMU1C.EXE software, b) AMU1-PC interconnecting cable and c) Manual „METHODS OF DATA PROCESSING PROCEDURE FOR AMU1“. Operator have been trained according to manual „Methods of data processing procedure for AMU1“. Demonstration of AMU1 file download with AMU1C.EXE software.			
(5.1) Date:			
(5.2) Name:		(5.3) Signature:	
<u>6. Aircraft with verified AMU1 function in handed over to the operator</u>			
(6.1) Date:			
(6.2) Name:		(6.3) Signature:	

**APPENDIX NO. 2 – REPORT FORM FOR AIRCRAFT LOGBOOK INFORMATION
BY AMU1 FILE DOWNLOAD PROCESS (AMU1.01 – 02B/08)**

REPORT FORM FOR LOGBOOK INFORMATION BY AMU1 DATA DOWNLOAD PROCESS

<u>1. Aircraft information</u>			
(1.1) Aircraft type:		(1.2) Aircraft serial No.:	
(1.3) Aircraft registration mark:		(1.4) Country:	
(1.5) Operator:			
(1.6) E-mail No.1:		(1.8) E-mail No.3:	
(1.7) E-mail No.2:		(1.9) E-mail No.4:	
<u>2. Logbook information</u>			
(2.1) Total flight hours at AMU1 initialization:			
(2.2) Total number of landings at AMU1 initialization:			
(2.3) Total number of flight hours in acrobatic category since last wing installation till AMU1 initialization:			
(2.4) Total number of flight hours in utility category since last wing installation till AMU1 initialization:			
(2.5) Total number of flight hours in acrobatic and utility category since last wing installation till AMU1 initialization:			
(2.6) No. of wing installations / Total flight hours at time of wing installation:			
(2.7) Total flight hours since first flight:			
(2.8) Total number of landings since first flight:			
(2.9) Total number of flight hours in acrobatic category since last wing installation:			
(2.10) Total number of flight hours in utility category since last wing installation:			
(2.11) Total number of flight hours in acrobatic and utility category since last wing installation:			
(2.12) Conic pins and bushings for attaching the wings to the fuselage:			
<u>4. AMU1 data was downloaded before hand-over to the operator; data stored on PC and sent to ZLIN AIRCRAFT</u>			
(4.1) Date in the aircraft logbook:			
(4.2) Name of the downloaded file (*.amu):			
(4.3) Name:		(4.4) Signature:	

**APPENDIX NO. 3 – INSTRUCTION FOR THE FORM FILL (AMU1.01 – 02A/08)
AND (AMU1.01 – 02B/08)**

1. Aircraft information

- 1.1 Aircraft type: Aircraft type
- 1.2 Aircraft serial No: Aircraft serial number
- 1.3 Aircraft registration mark: Aircraft registration mark
- 1.4 Country: Country, where the registered aircraft is operational
- 1.5 Operator: Person or organisation, who operates the aircraft
- 1.6-1.9 E-mail No.: E-mail addresses, which will be used for communication between manufacturer and aircraft operator. These E-mails will be also used for sending the AMU1 results report

2. Logbook information

- 2.1 Total flight hours till AMU1 initialization:
Total flight hours since first aircraft flight till AMU1 initialization
- 2.2 Total number of landings till AMU1 initialization:
Total number of landings since first aircraft flight till AMU1 initialization
- 2.3 Total number of flight hours in acrobatic category since last wing installation till AMU1 initialization:
Total number of flight hours in acrobatic category since last wing installation till AMU1 initialization
- 2.4 Total number of flight hours in utility category since last wing installation till AMU1 initialization:
Total number of flight hours in utility category since last wing installation till AMU1 initialization
- 2.5 Total number of flight hours in acrobatic and utility category since last wing installation till AMU1 initialization:
Total number of flight hours in acrobatic and utility category since last wing installation till AMU1 initialization. This entry is filled, when the operator does not record the acrobatic (2.3) and utility (2.4) flight time separately.

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2.6 No. of wing installations / Total flight hours at time of wing installation:

This information is concerning about last wing installation and time of its installation according to the aircraft logbook

e.g.: Last wing installation was the second wing installation and it was carried out at 2985 flight hours; mark: 2/2985

2.7 Total flight hours since first flight:

Total flight hours since first flight

2.8 Total number of landings since first flight:

Total number of landings since first flight

2.9 Total number of flight hours in acrobatic category since last wing installation:

Total number of flight hours in acrobatic category since last wing installation

2.10 Total number of flight hours in utility category since last wing installation:

Total number of flight hours in utility category since last wing installation

2.11 Total number of flight hours in acrobatic and utility category since last wing installation:

Total number of flight hours in acrobatic and utility category since last wing installation. This entry is filled, when the operator does not record the acrobatic (2.9) and utility (2.10) flight time separately.

2.12 Replacement Conic pins and bushings for attaching the wings to the fuselage:

Total number of flight hours according to the logbook, when the last conic pins and bushings for attaching the wings to the fuselage were replaced; mark: Number of replacements / Total number of flight hours according to the logbook

2.13 Engine mount and fasteners for attaching to the fuselage and for attaching of the engine:

Engine mount and fasteners for attaching to the fuselage and for attaching of the engine were replaced by the last wing installation; mark: Yes / No

2.14 Stabilizer and fasteners for attaching to the fuselage:

Stabilizer and fasteners for attaching to the fuselage were replaced by the last wing installation; mark: Yes / No

2.15 The bolts connecting fuselage frame and rear part of the fuselage:

The bolts connecting fuselage frame and rear part of the fuselage were replaced by the last wing installation; mark: Yes / No

2.16 Stabilizer support struts and fasteners for attaching to the fuselage and to the stabilizer:

Stabilizer support struts and fasteners for attaching to the fuselage and to the stabilizer were replaced by the last wing installation; mark: Yes / No

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ACCELERATION MONITORING UNIT



3. AMU1 initialization

- 3.1 AMU1 serial No: AMU1 serial number
- 3.2 AMU1 software No: AMU1 software number
- 3.3 AMU1 initialization date: AMU1 initialization date
- 3.4 Name: Name of the person, who realized the AMU1 initialization
- 3.5 Signature: Signature of the person, who realized the AMU1 initialization
- 3.6 AMU1 function verified: AMU1 function verified; mark: Yes / No
- 3.7 Name: Name of the person, who verified the AMU1 function after initialization
- 3.8 Signature: Signature of the person, who verified the AMU1 function after initialization

4. AMU1 data was downloaded before hand-over to the operator; data stored on PC and sent to ZLIN AIRCRAFT

- 4.1 Date in the aircraft logbook: Date in the aircraft logbook, when the AMU1 data was downloaded
- 4.2 Name of the downloaded file (*.amu): Name of the downloaded file (*.amu)
- 4.3 Name: Name of the person, who downloaded AMU1 data
- 4.4 Signature: Signature of the person, who downloaded AMU1 data

5. User instruction

- 5.1 Date: Date of the operator training
- 5.2 Name: Name of the person, who trained the operator
- 5.3 Signature: Signature of the person, who trained the operator

6. Aircraft with verified AMU1 function in handed over to the operator

- 6.1 Date: Date of hand over the aircraft to the operator
- 6.2 Name: Name of the person, who handed over the aircraft to the operator
- 6.3 Signature: Signature of the person, who handed over the aircraft to the operator