APPROVED

804.АЖБА.22001-01 34-2

INFORMATION READING PROGRAM

«SOMExplorer»

Operator Manual

804.АЖБА.22001-01 34-2

Version 1.0.0.15

21 sheets

2025

GENERAL

The program «SOMExplorer» provides reading of information registered by the electronic data storage unit: DSU-2-450, DSU-2-450C, DSU-2-750, DSU-2-148FM (hereinafter referred to as DSU).

This manual, installation module 804.АЖБА.22001-01 90.exe of the program «SOMExplorer» and the parameter description file «*.bop» are included in the delivery package of the DSU and are supplied on the Flash-card (or transferred by the engine supplier at the request of the operating organization), and also laid out on the internet on the «SOM-Orion» support site at: https://som64.site.

CONTENTS

1 PURPOSE OF THE PROGRAM

The «SOMExplorer» information reading program is intended for:

− copying information (hereinafter referred to as flight files) from the DSU via USB channel;

− view the state of the DSU memory for the presence on Bad-Block bad sectors;

− DSU memory erase;

− reading a binary copy from DSU.

2 INSTALLING THE PROGRAM «SOMExplorer»

2.1 Turn on the personal computer (PC) with operating system Windows 7 or higher, with of bit at least 64 and with Service Pack 1 (SP1) or higher. Launch the installation module 804. АЖБА.22001-01 90.exe, having previously copied it from the Flash-card or website.

2.2 Depending on the version Windows operating system and the Windows security policy, when starting the installation, a message about computer protection, shown in Figure 1, may appear.

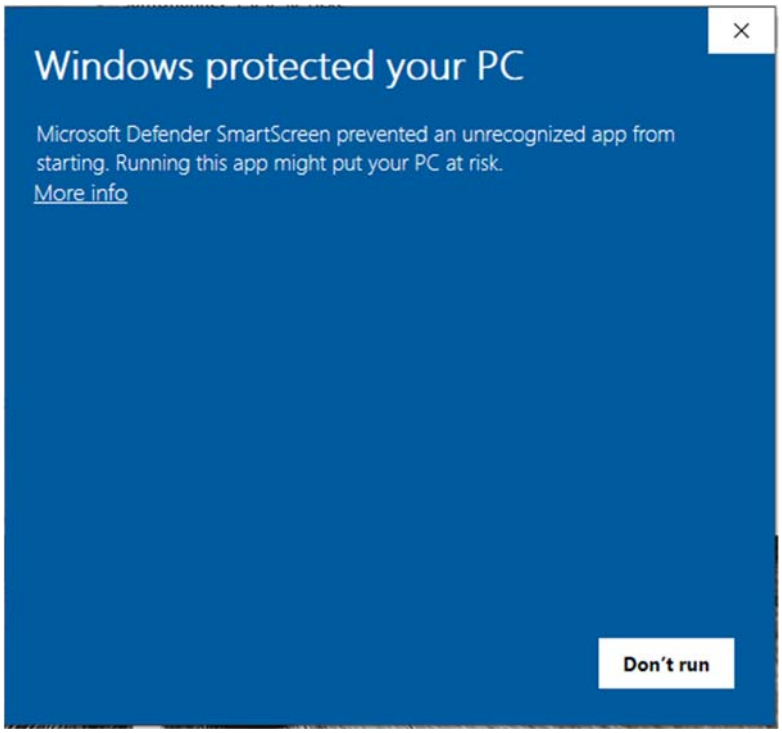


Figure 1 – Computer protection message

In this case, you need to click on the “More info” tab and then on the Run anyway button.

2.3 As a result, the main window of the installation program will appear on the computer screen, shown in Figure 2

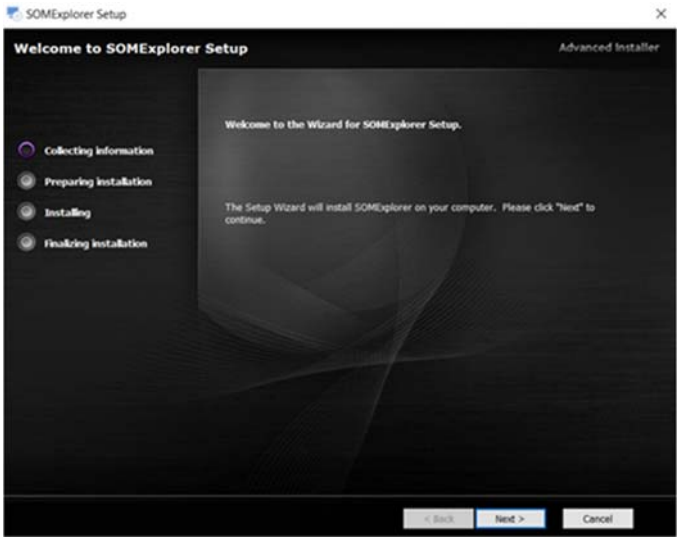


Figure 2 – The main window of the installation program

2.4 To continue installing the program in the main window, click on the “Next>” button, and a window should appear (Figure 3) and you need to select the directory in which the program will be installed (by default, the directory is C:\Program Files\SOM\SOMExplorer is selected).

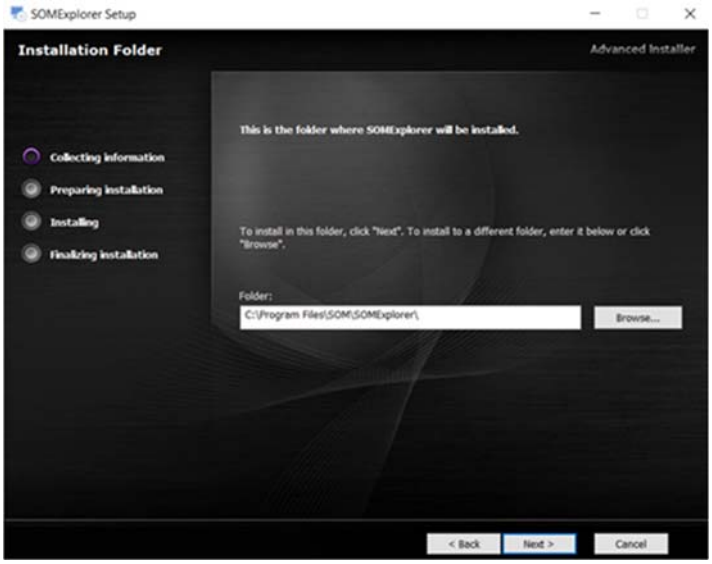


Figure 3 – Window for specifying the directory where the «SOMExplorer» program is located

2.5 Click on the “Next” button and then the “Install” button. The process of installing the program will go «SOMExplorer» (Figure 4).

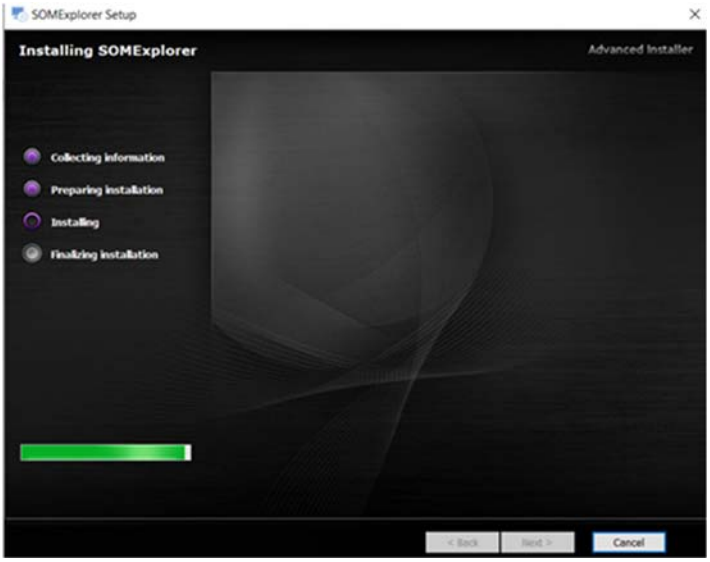


Figure 4 – Installation process

2.6 Then click on the “Next” button and the “Finish” button. As a result of installing the program, a shortcut will appear on the desktop 

, and the menu “Start-> SOMExplorer” will appear on the menu.

3 COPYING INFORMATION FROM DSU VIA USB CHANNEL

3.1 Connect the standard aircraft data reading cable to the computer's to the USB port (only for aircraft equipped with a cable) (see TM №205 CMM of DSU).

ATTENTION: CONNECT THE COMPUTER TO THE DSU ONLY WHEN THE POWER SUPPLY TO THE DSU IS TURNED OFF FROM THE AIRPLANE'S BOARD NETWORK.

Note: in this case, it is not required to use a separately process cable АЖБА6.641.008 with disconnection at the DSU connector X1 is not required.

3.2 If the aircraft is not equipped with a standard aircraft cable or there is a need to work with a dismantled unit, use a separately made external process cable АЖБА6.641.008 (see TM №204 CMM of DSU).

On the desktop, click on the shortcut 

or select the «SOMExplorer» in the Windows main menu, after which the main screen «SOMExplorer» shown in Figure 5 will be displayed.

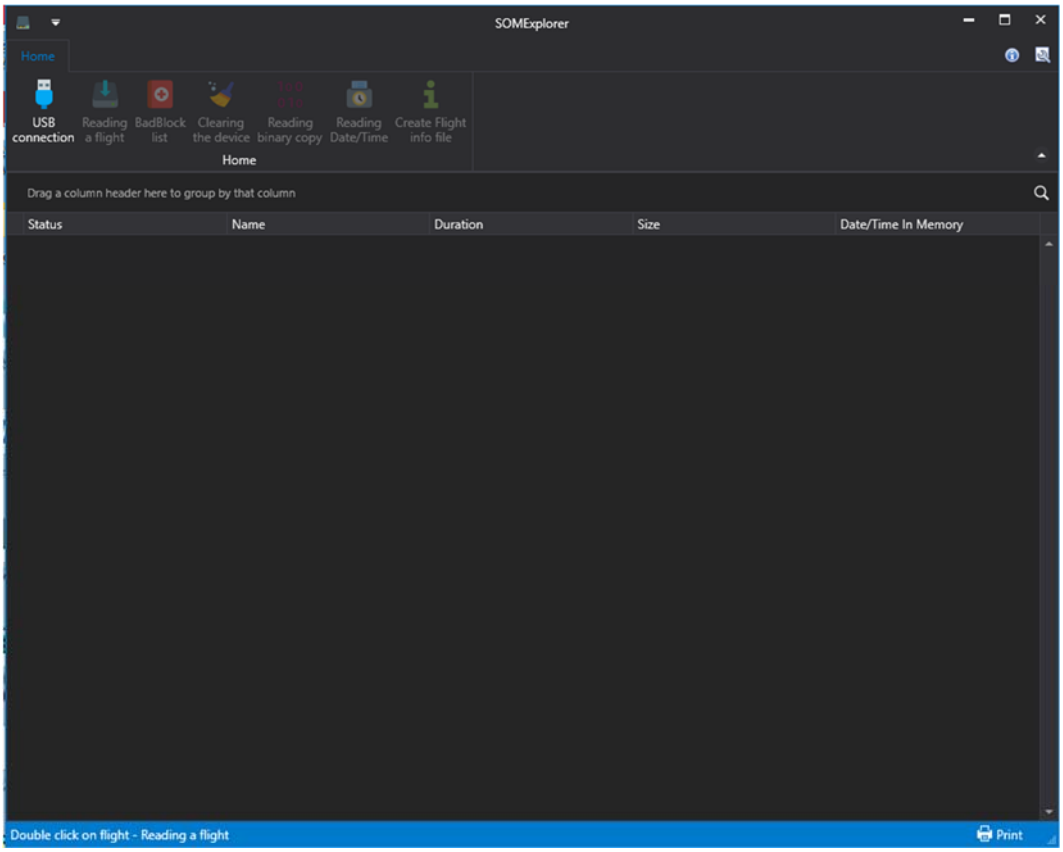
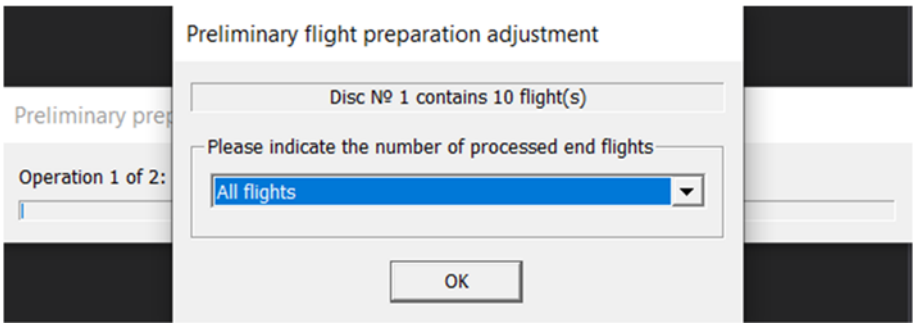


Figure 5 – The «SOMExplorer» main screen

3.3 Click on the 

button the window of the connected device will be displayed.

3.4 Click on the “OK” button. The “Preliminary flight preparation adjustment” window will appear, in which indicates the total number of flights files recorded in the DSU, with the ability to select to read any of them or all available ones. The option selected by the operator must be confirm by pressing the “OK” button.



3.5 A windows will appear with a list of fright files selected in step 3.4 (an example is shown in Figure 6).

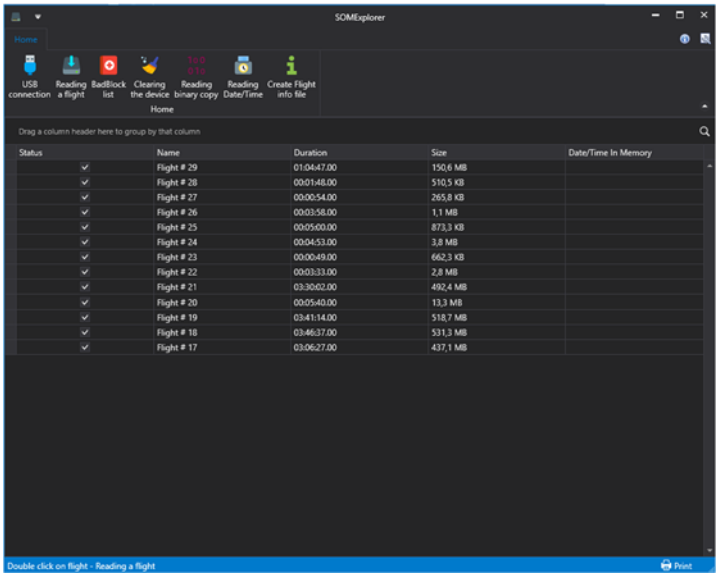
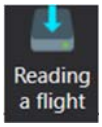


Figure 6 – Example of a list of flight list recorded in DSU

3.6 Select the flight file required for reading (or all flight files recorded in the DSU memory, for which you need to hold down the “Ctrl” key and select all flight files with the left mouse button) in the “Status” column and click the 

button or double-click with the left mouse button on the flight file (s), then you will be prompted for a parameter description file «*.bop» (which is initially located on the supplied Flash-card, as well as on the support site at: https://som64.site). Next, specify the path to the location of the «*.bop» file on your computer (here * means the type of engine with which this DSU works) and click the "Open" button.

3.7 The «Flight info», window will appear, shown in Figure 7.

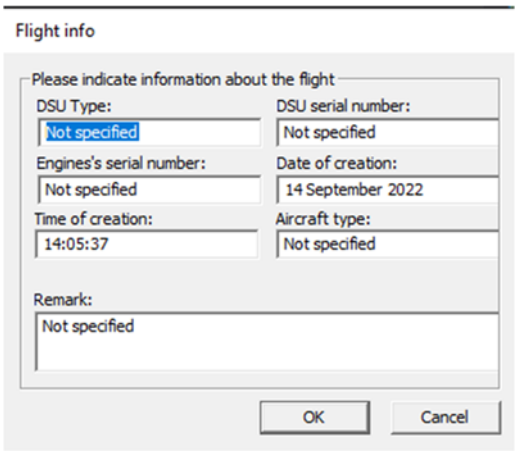


Figure 7 – Window composition «Flight info»

3.8 Fill in the required fields in the «Flight info» window with the necessary up-to-date information using the example of Figure 8 below and click the “OK” button.

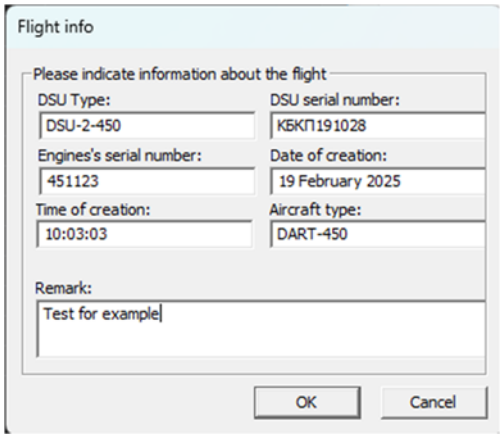


Figure 8 – Example of filling a window «Flight info»

3.9 The fields «DSU Type», «Engines's serial number», «DSU serial number», «Aircraft type» in the «Flight info» window is required to be filled in with current information, and if they are not filled in, the program generates appropriate error messages (Figure 9) with blocking of further operations for reading information.

The «Remark» field is filled in by the operator, if necessary and at the user's request, with any text accompanying information. The fields «Time of creation» and «Date of creation» are filled in by the program with data (time and date) corresponding to the moment the flight file was read from the data storage database automatically.

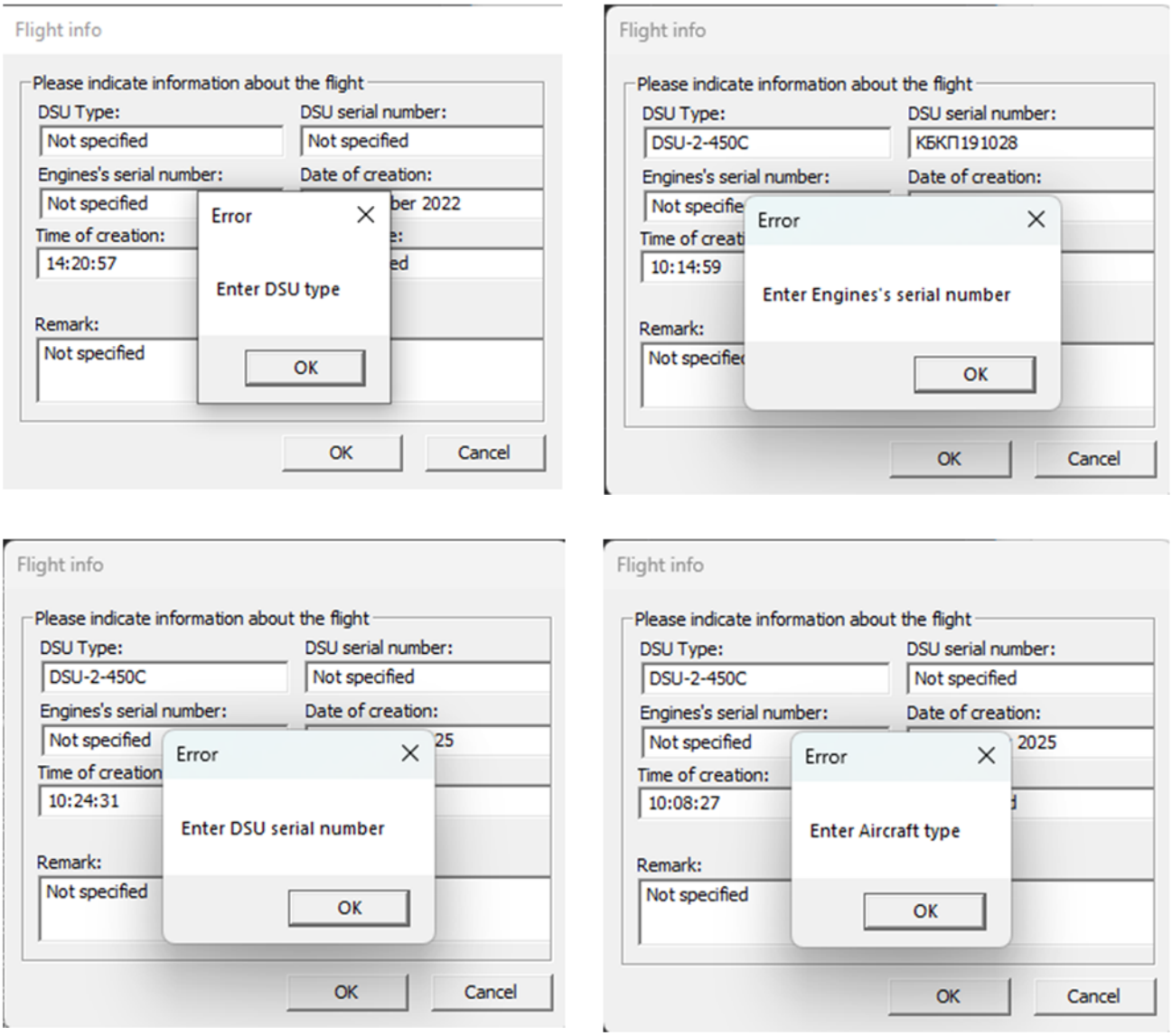


Figure 9 – Error messages when not filled in by the operator corresponding required field

3.10 If the type and number of the DSU and hardwired into its memory, then the «Flight info» window shown in Figure 10 will appear. Fill in the required fields «Engines's serial number» and «Aircraft type» in the «Flight info» window with current data using the example of Figure 10 presented below (similar to clause 3.8).

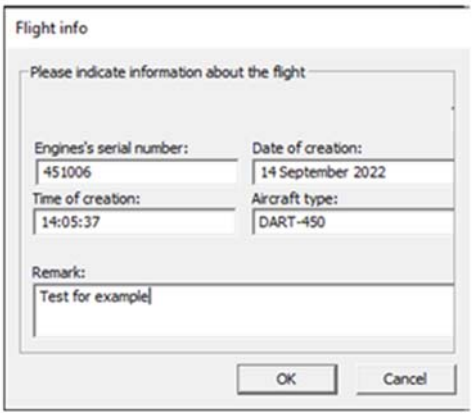


Figure 10 – Example of filling a window «Flight info»

3.11 Select a folder to save the created *.2rz file (s), or create a new one using the "Create folder" button and the "Save" button. The process of reading the selected flight file (s) will begin, shown in Figure 11.

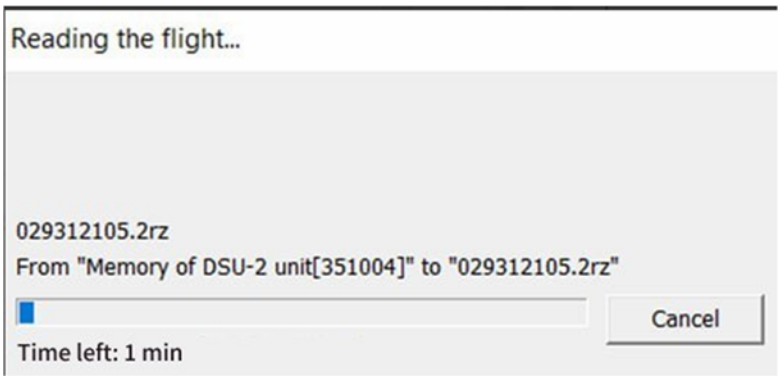


Figure 11 - The process of reading the flight file (s)

3.12 As a result of reading, file (s) with the extension "*.2rz" are formed.
In the file name, the first five positions indicate the base number in order for this DSU (*********.2rz), and the next four position indicate the day and month of reading

base number day month

files from the unit. This file name can be changed as desired (for one flight). If several flights were read, then the file names will have their own names, which, after reading, can also be renamed if necessary.

3.13 Only for DSU-2-148FM, when you click on the active 

button next to the read flight file (flights) with the extension *.2rz, a file will be generated with the same name, but with the extension *.2rz.txt, which contains additional reference information (see TM №205 CMM DSU).

3.14 After reading is completed, close the program and disconnect the cable for reading information.

4 VIEWING DSU MEMORY FOR BAD-BLOCKS SECTORS

4.1. To view the state of the DSU memory for the presence of Bad-Blocks sectors in the main screen «SOMExplorer», shown in Figure 5, click the 

button. The window shown in Figure 12 will be displayed.

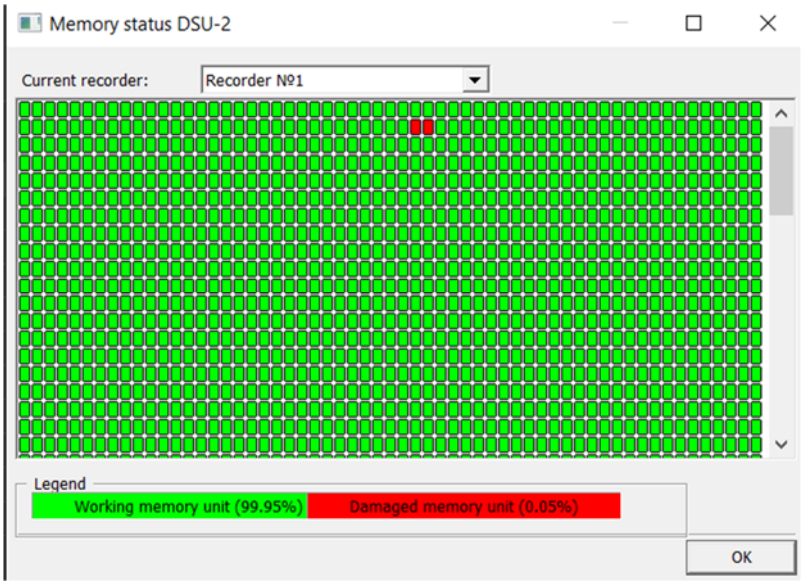
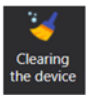


Figure 12 – Memory status window DSU

4.2 The maximum allowable number of Bad-Block sectors should not exceed 10%. If the amount of Bad-Block is more than 10%, this DSU must be returned to the DSU supplier (manufacturer) for repair.

5 DSU MEMORY ERASE

5.1 On the main screen «SOMExplorer», shown in Figure 5 click the 

button, and then the password entry window shown in Figure 13 will be displayed.

Note. During regular operation of the DSU, erasing its memory is not a mandatory procedure, but if necessary, it is performed only by a representative of the Supplier (manufacturer) of the engine.

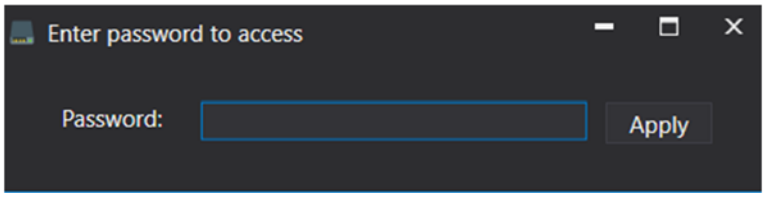
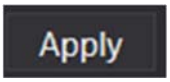


Figure 13 - A window for entering a password to confirm erasing

5.2 Click the 

button, the window shown in Figure 14 will be displayed.

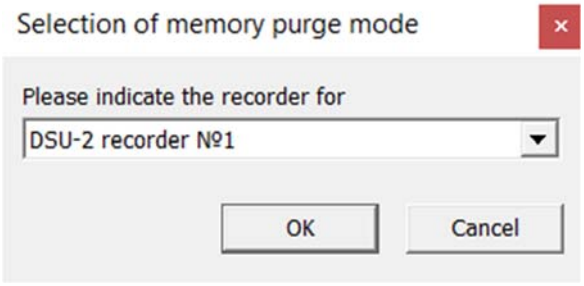


Figure 14 – DSU memory selection window

5.3 Click the “OK” button, after which the "Confirmation" message will be displayed (Figure 15).

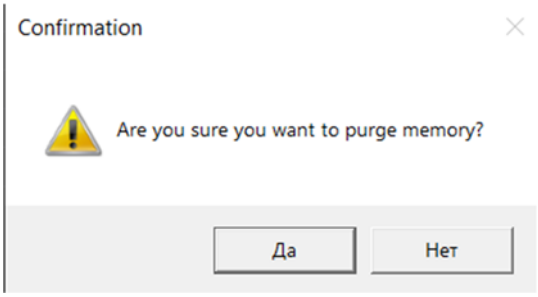


Figure 15 - Memory Clear Confirmation

5.4 To confirm click the “Yes” button, the DSU memory erasing process will begin.

5.5 After the memory erase is complete, the message shown in Figure 16 is displayed.

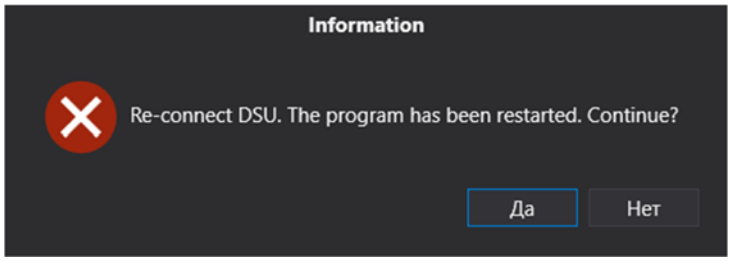


Figure 16 – Message about disabling the DSU and restarting the program

5.6 Click the "Yes" button. Then remove and reconnect the cable for reading information from/to the USB port of the computer and run the “SOMExplorer” program again and click the 

button, after which the window of the connected device will be displayed.

5.7 Click the OK button. The “Preliminary flight preparation adjustment” window will appear (see section 3.4), in which there will be no list of flight files, that is, unit memory must be empty.

6 COPYING INFORMATION BY CHANNEL RS-232 (ONLY FOR UNITS EQUIPPED WITH THIS FUNCTION)

6.1 On the main «SOMExplorer», shown in Figure 5, click the  button in the upper right corner, after which the screen will display a list of parameters received via the RS-232 channel, shown in Figure 17.

Figure 17 – List of parameters received via DSU via RS-232 channel

6.2 Manually fill in the fields with the data presented in Figure 18.

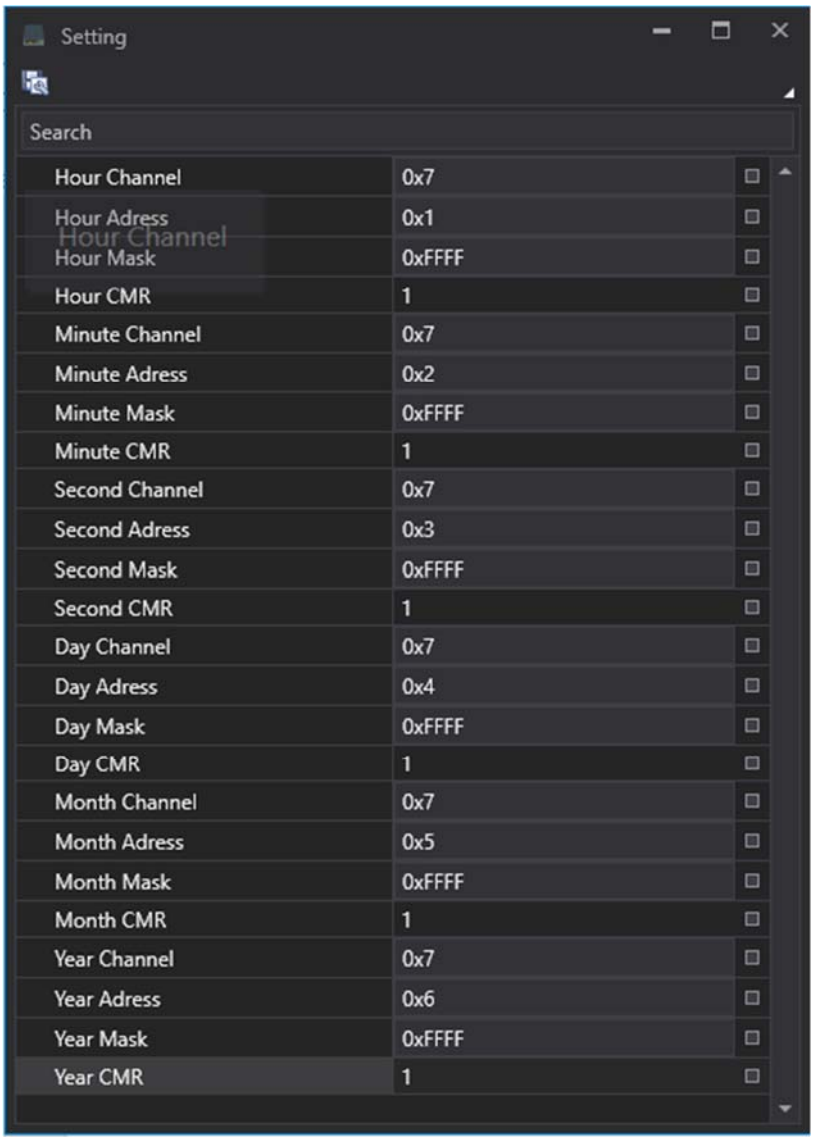


Figure 18 – Example of filling in the fields

6.3 After entering the data, click the button and then the button.

6.4 Restart the “SOMExplorer” program. Follow steps 3.1 … 3.4 of this manual and select the flight file required for reading.

6.5 Click the Reading Date/Time button and the Date/Time In Memory column will display the flight data and time in the format 20:12:21|12:25:46 (day: month: year | hours: minutes: seconds).

7 READING BINARY COPY FROM DSU

7.1. Reading a binary copy is not a mandatory procedure and is performed only on the recommendation of a representative of the supplier (manufacturer) of the engine.

7.2 To read a binary copy, in the main screen «SOMExplorer», shown in Figure 5, click the 

button and select the address range shown in Figure 19.

Figure 19 - Address Range

7.3 Click the “OK” button. Select a folder to save this file and enter the name of this file, and then click the "Save" button. A file with the *.bin extension will be generated and the process of reading the binary copy shown in Figure 20 will go.

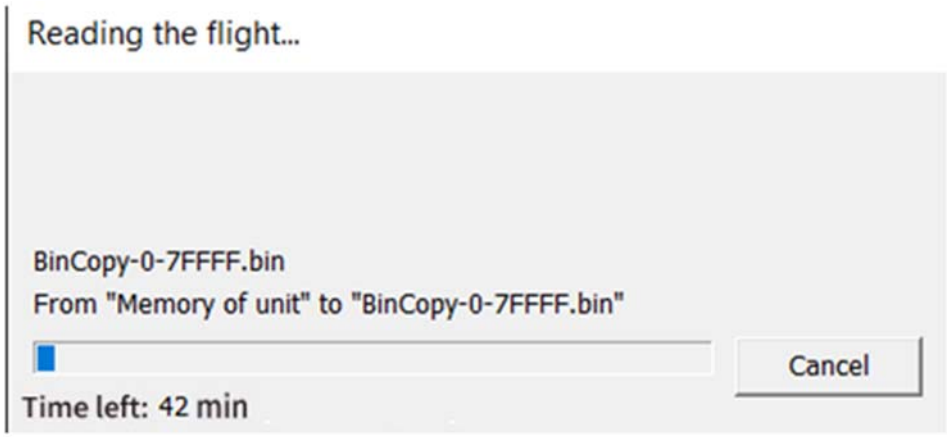


Figure 20 - The process of reading a binary copy

7.4 Reading a binary copy can take a long time, sometimes more than an hour.

8 SOFTWARE SETTINGS

8.1 On the main screen «SOMExplorer», shown in Figure 5, you need to click on the  button, the software version information will be displayed, an example is shown in Figure 21.

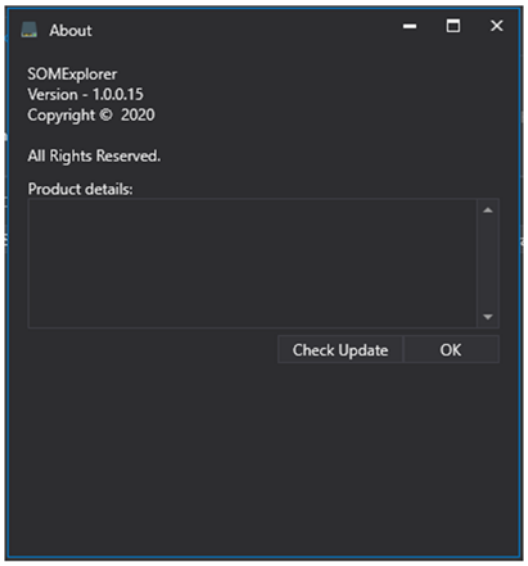


Figure 21 - Information about the software version and updates

8.2 You can also check for an updated version of the software when your computer is connected to the Internet. To do this, click on the 

button. If the software requires an update, the update comparison process shown in Figure 22 will start.

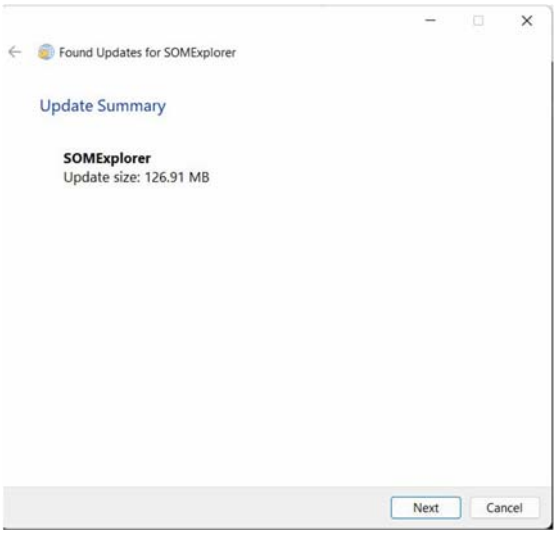


Figure 22 – The update comparison process

8.3 Click the Next button and the process of installing the updated version will begin, shown in Figure 23.

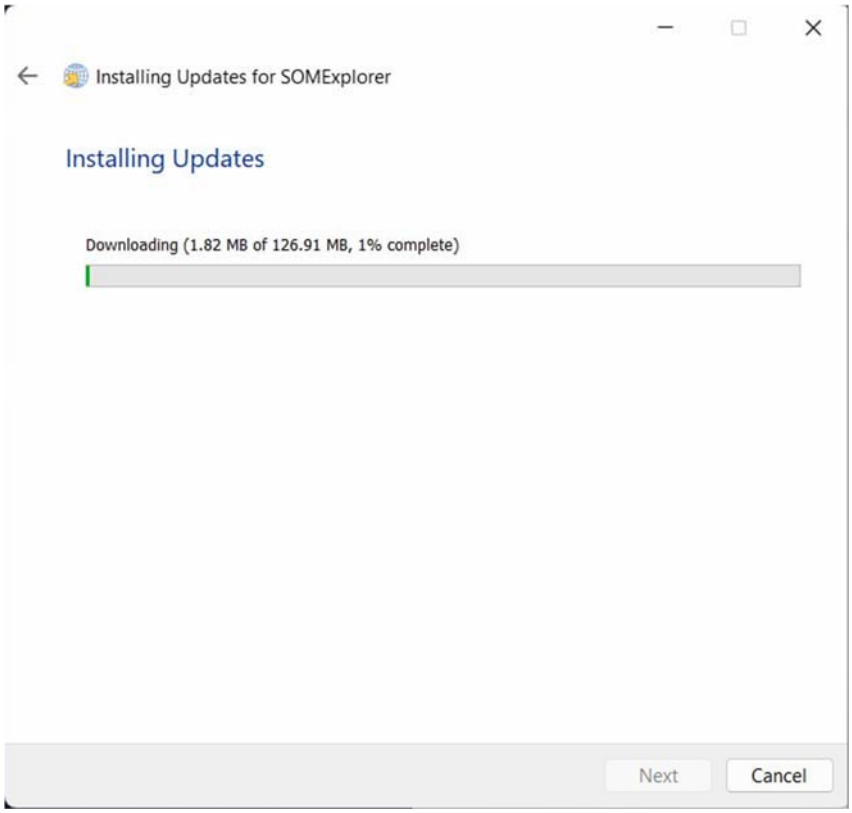


Figure 23 – Installation process for the updated version

8.4 If the software does not require updating, the message shown in Figure 24 will be displayed.

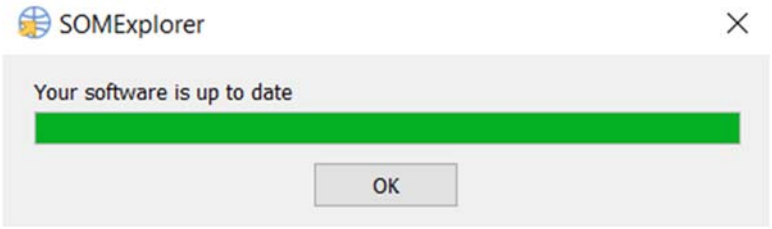


Figure 24 – Message about no need to update

8.5 Click the “OK” button.