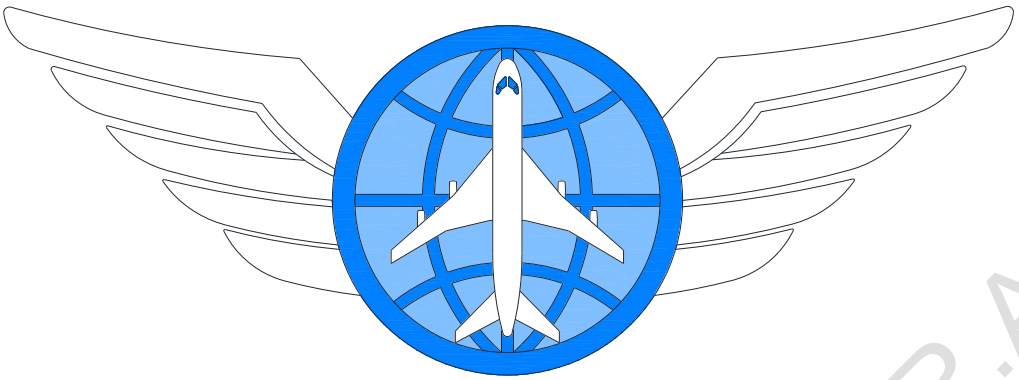


ALTIR

AIRCRAFT MAINTENANCE PLANNING APPLICATION

v1.2.8

USER GUIDE

Moscow
2019

Content

1. Terms and abbreviations

AC - aircraft.

ENG - engine.

APU – auxiliary power unit.

MAINT - maintenance.

MLG - main landing gear.

NLG - nose landing gear.

SN - since new.

2. Application purpose

This manual is written for users of the ALTIR application - engineers of planning and control departments of aviation companies, as well as staff of other companies serving the aircraft fleet, in order to monitor the condition of the aircraft and plan works.

The manual provides information on:

- graphical interface of the application,
- work methods when using the main and additional functions of the application,
- settings of the application.

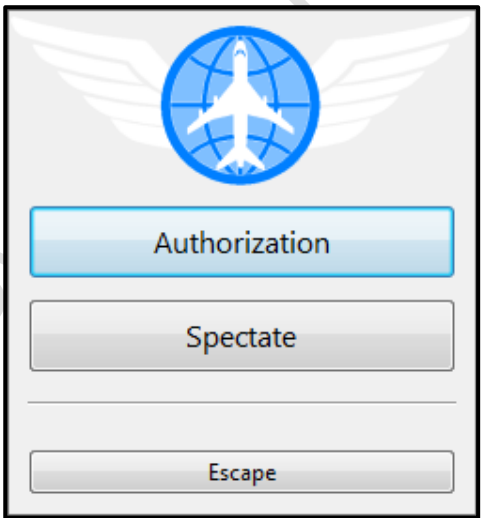
3. Introduction

This software is designed to plan the maintenance of aircraft and their components in accordance to the flight time of the aircraft and regulations of the aircraft maintenance.

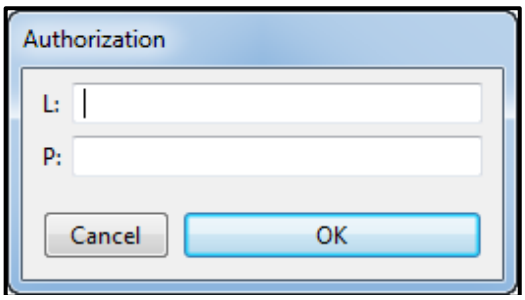
The main functions of the application:

- Aircraft, engine, APU and component flight time accounting;
- Component database;
- Component statuses;
- Wheel repairing database;
- Maintenance planning;
- Maintenance database;
- Aircraft, engine, APU and component flight time reports;
- Reports of performed maintenance;
- Selection of tasks, maintenance forms by resource residues and service life;
- Selection of components by resource residues and service life.

Work with the application starts with an authorization window, in which the user is offered with a choice of an authorization method: signing in with indication of login and password or login in view mode.



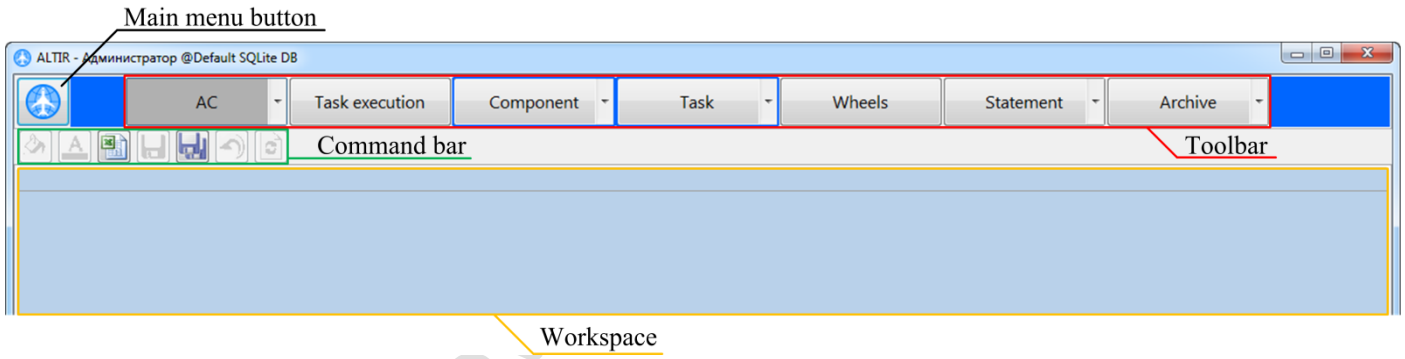
The «Sign in by login» mode allows users to work with the application interface with the ability to enter and change data (the functionality corresponding to the role set for the entered login will be available). The entrance into the application is carried out using the login and password issued by the administrator.



The «Spectate» mode allows users to work with the application interface in a limited mode without the possibility of entering and changing data in the application.

After entering the login and password, the user enters the main window of the application, which contains

- Button to call the main menu;
- A basic toolbar that allows you to perform actions with aircrafts, their components and tasks, to carry out their sampling;
- Command bar;
- The working area of the selected tool.



4. Toolbar

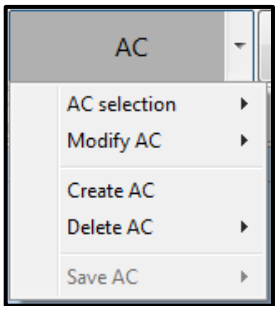
The toolbar contains seven buttons for invoking workspaces and tool menus. Pressing the button with the name of the tool activates its working area, and pressing the arrow on the right side of the button brings up the tool menu. The tool button with the active work area is highlighted with dark gray (only one work area can be active at a time).

The **«Component»** and **«Task»** tools have no workspaces, their buttons are circled with blue. The menus of these tools contain items that implement actions for batch creation, modification, deletion and restoring from the archive of the corresponding objects on several AC.

4.1 «AC» tool

The **«AC»** tool is designed to display aircraft data into the work area, determine and modify information about the aircraft and its main components: engines and APU. This tool allows you to add new AC to the list and delete existing AC moving it into the archive.

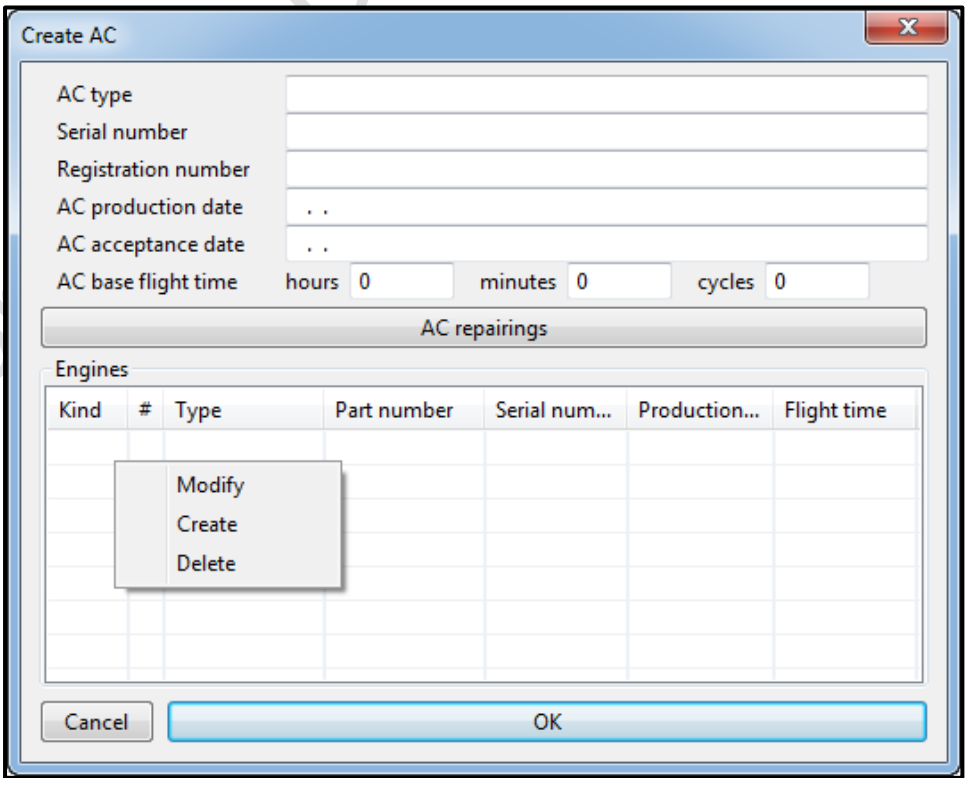
The **«AC»** tool menu contains a set of actions that can be done with the AC: Select AC, Modify AC, Create AC, Delete AC.



«Create AC» action

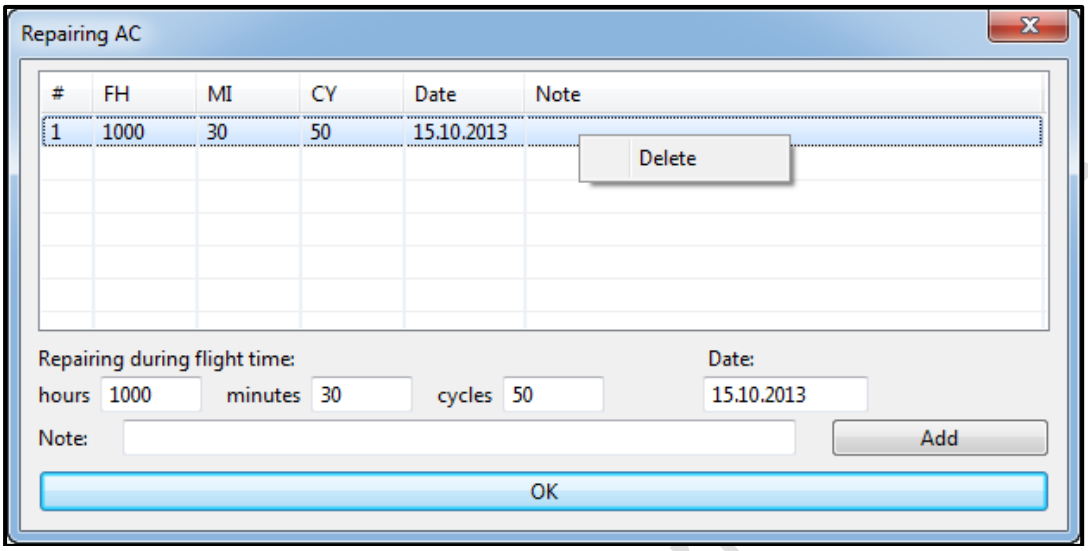
The **«Create AC»** action is intended to create a new AC and its main components: engines and APU.

When you select **«Create AC»**, a dialog box appears, used to enter information about AC, engines and APU installed. This dialog box consists of fields for entering information about AC: AC type, serial number, registration number, AC production date, AC acceptance date, AC initial flight time.



The **«Create AC»** dialog box includes the ability to enter information about the AC repairs carried out.

When you click on the **«AC repairs»** button, a dialog box appears, intended to display information about AC repairs and to enter information on the flight time and the date at which the aircraft was repaired.

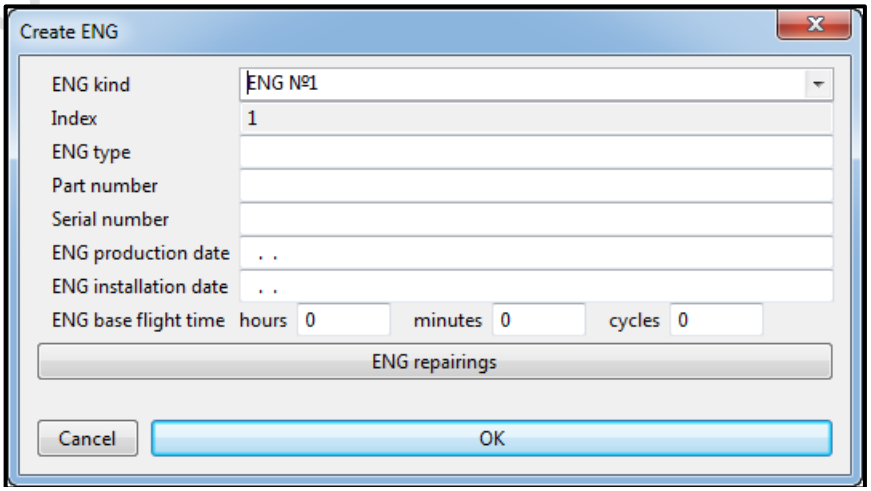


The **«Power units»** table in the **«Create AC»** dialog box is intended for creating and entering information about the ENG and APU for the AC being created. This table consists of columns that display information on the control system and the APU: Kind, Type, Part Number, Serial Number, Production Date, Flight time.

When you click in the table with the right mouse button, a context menu appears with actions: Modify, Create, Delete.

Creating, modifying, deleting ENG (APU)

When selecting the **«Create»** action, the **«Create engine»** dialog box appears for entering information about a new ENG and APU for this aircraft.

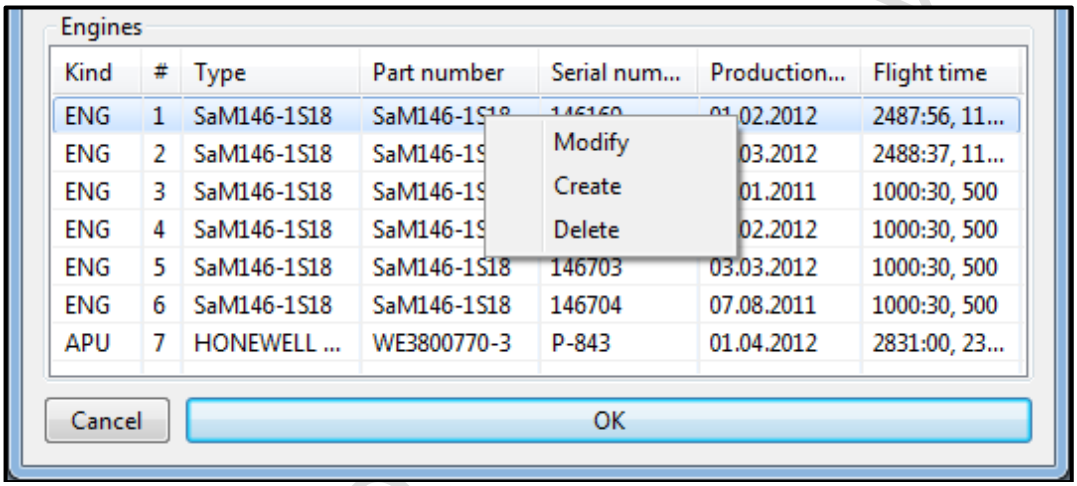


The **«Create engine»** dialog box consists of fields that are intended for entering information about the ENG (APU): ENG kind, Serial number, ENG type, Part number, Serial number, Date of ENG production, Date of installation on the AC, Initial flight time of the AC.

The dialog box **«Create engine»** includes the ability to make information about the repairs of the ENG and the APU.

When you click on the **«Repair engine»** button, a dialog box appears designed to display information about all ENG (APU) repairs and entering information about the flight time and the date at which the ENG (APU) was repaired.

In order to change or add information about the ENG (APU), select the ENG (APU) in the **«Engines»** table, right-click on it, and in the appeared context menu select the **«Modify»** action.



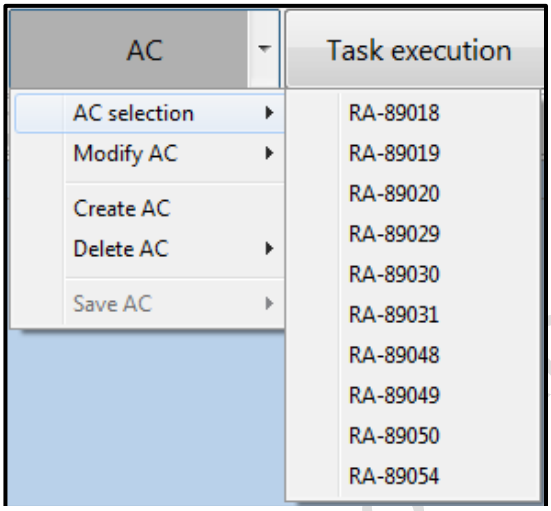
To remove the ENG (APU), select the ENG (APU) in the **«Engines»** table, right-click on it and select the **«Delete»** action in the context menu that appears.

After you have entered all the required information about the AC and its constituent ENG (APU) to complete the procedure of creating AC, you must click the **«OK»** button at the bottom of the **«Create AC»** dialog box.

At this same time, the application will form a record of AC with a new tail number and a set of tabs NAR, REP, A / C COMP, TASK, PLAN. To save the created AC in the application database, click on the **«Save all AC»** button in the **«AC»** tool menu or in the command bar.

«Select AC» action

The **«Select AC»** action is used to select AC by registration number from the general list of AC's for displaying AC data into the workspace and subsequent work in its tabs REP, NAR, A / C COMP, TASK, PLAN. When you hover the mouse over the **«Select AC»** a list with all the AC's appears. The selection of AC is carried out by pressing the left mouse button on the desired registration number.



«Modify AC» action

The **«Modify AC»** action is used to make changes to the configuration of AC, ENG and APU. When you hover the mouse over **«Modify AC»** a list of all AC's appears. The selection is made by clicking the left mouse button on the desired registration number of the aircraft.

After that, the **«Modify AC»** dialog box appears. The contents of this dialog box and working with it is identical to the dialog box **«Create AC»**.

«Delete AC» action

The **«Delete AC»** action is used to transfer the selected aircraft to the archive from the general list of AC's. When you hover the mouse over **«Delete AC»**, a list of all AC's appears. The selection is made by clicking the left mouse button on the desired registration number of the aircraft.

In the window that appears, you must confirm the transfer of the selected AC registration number to the archive. After confirmation, this AC will be moved into the application archive.

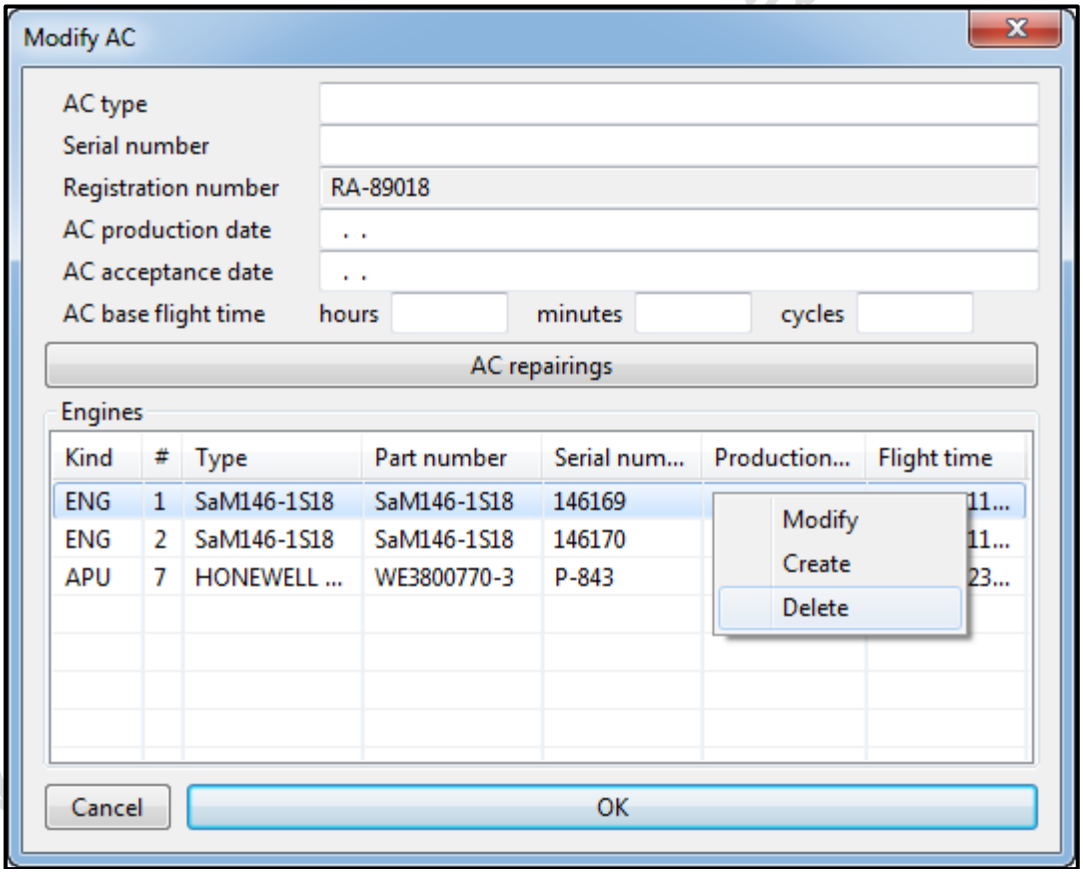
Replacement of engines (APU) in the aircraft

To replace the ENG (APU) in the AC, you must:

1) In the NAR tab of the corresponding AC, fix the flight time of the engine being replaced in the first row of the table. The engine flight times should turn blue. After that, you must save the changes.

AC flight time per month			AC flight time SN			ENG flight time №1			ENG flight time №2			APU flight time		
FH	MI	CY	FH	MI	CY	FH	MI	CY	FH	MI	CY	FH	MI	CY
20	00	41	2495	00	1189	2507	56	1197	2508	37	1197	2872	00	2432
40	00	41	2515	00	1189	2527	56	1197	2528	37	1197	2872	00	2432

2) In the «**AC**» tool menu, select the «**Modify AC**» action for the corresponding AC. In the dialog box «**Modify AC**» it is necessary to select the ENG (APU) that needs to be replaced as part of the AC, and by pressing the right mouse button, select the «**Delete**» action.

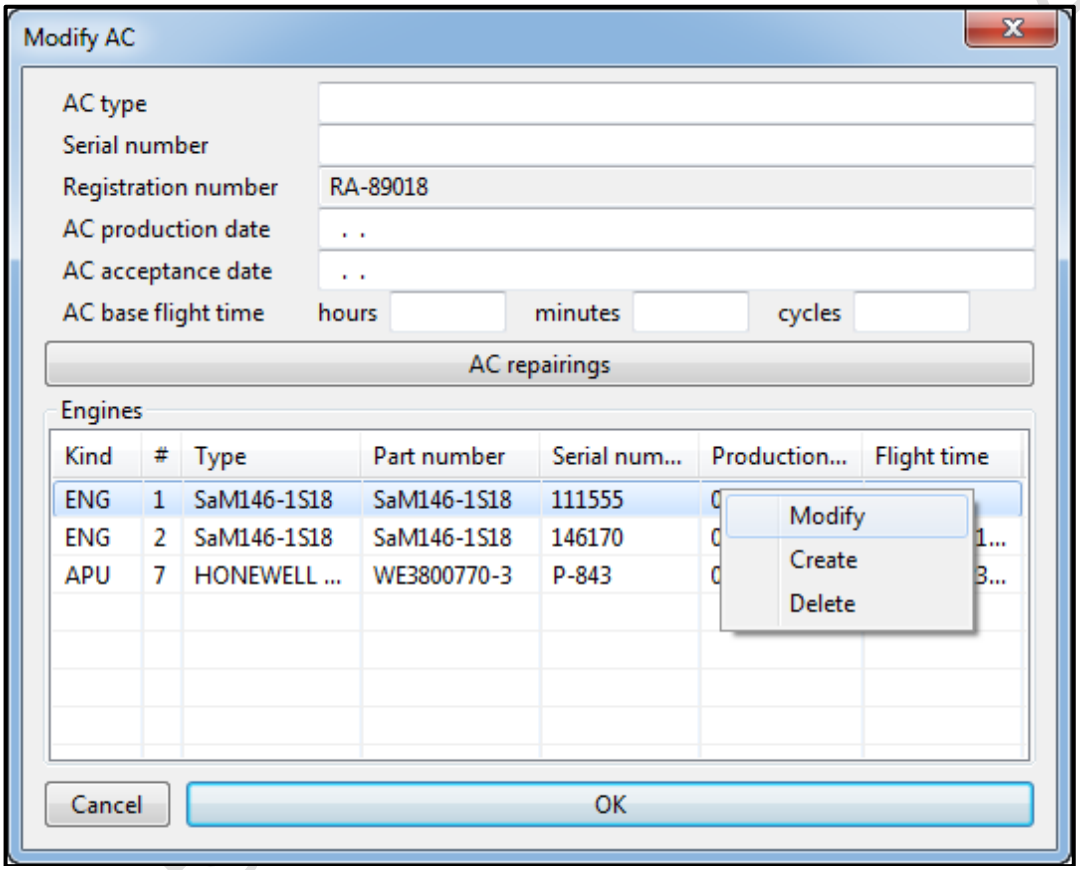


After confirming the removal of the engine, a window appears, where it is necessary to indicate the date of removal of the ENG (APU) from the aircraft will.

The removed ENG (APU) is transferred to the Archive, where it is possible to change the date of removing and flight time of the ENG (APU) at the time of removal from the aircraft using the «**Archive engine**» action.

3) The next step of replacing the ENG (APU) after its removal from the AC is the procedure of creating a new ENG (APU) with entering information about the engine to be installed in the dialog box **«Create engine».** The process of creating the engine itself was described above. Next, you must save the changes made with the AC.

4) After completing the creation of the ENG, it is required to select the newly created engine in the **«Engines»** table and press the right mouse button to invoke the **«Modify»** action.



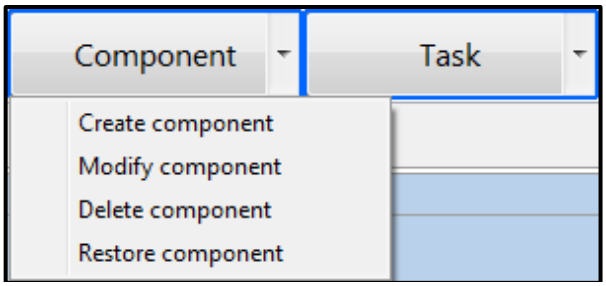
In the dialog box **«Modify engine»** that appeared, it is necessary to enter the flight time from the beginning of the created ENG (APU) operation into the fields **«Initial ENG flight time»**. To confirm and save the entered information, you must click on the **«OK»** button in the **«Modify engine»** and **«Modify AC»** dialog boxes. Next, save the changes made to the aircraft.

5) The final step in replacing the ENG (APU) in the AC is to add the flight time from the beginning of operation of the newly created ENG (APU) to the row of the table in the NAR tab of the corresponding AC, opposite the end date of maintenance at which the replacement was performed. After that, you need to save the changes in the application.

4.2 «Component» tool

The **«Component»** tool is designed to create components on aircrafts and work with them further, as well as to restore components from the archive.

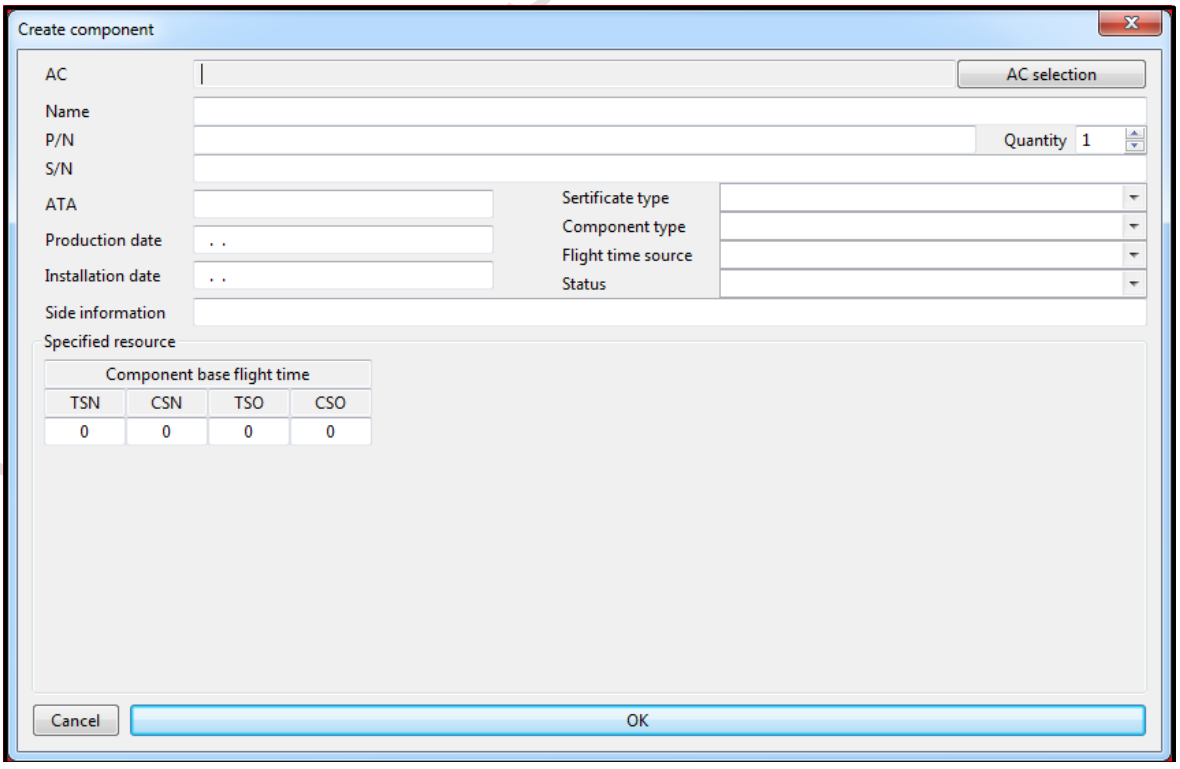
The menu of this tool contains a set of actions with components:
Create component, Modify component, Delete component, Restore component.



«Create Component» action

The **«Create Component»** action is used to create components on one or more aircrafts, create maintenance tasks for these components, and set the total number of these components in the AC configuration.

When you click onto the **«Create Component»** action, the **«Create Component»** dialog box appears with fields for entering information about the component being created and the **«Assigned resource»** area, which indicates the initial flight time and component maintenance tasks.



The application provides a choice certificate type from three positions:

- PASSPORT - if the component was installed on the AC with documents issued according to the standards of the Russian Federation,
- EASA Form 1 - if the component was installed on the AC with documents issued according to the standards of foreign aviation authorities,
- NO - if the component was installed on AC without documents.

Components in the application are divided into three types:

- LLP (Life Limited Part) - components with limited (marginal) resource / service life, involving the decommissioning.
- HT (Hard Time) - components with a limited assigned resource. The assigned resource involves servicing the units and components according to the maintenance application.
- OC (On Condition) - components that do not have resource / service life limits, i.e. maintained as.

The application provides the following statuses of components:

- NEW - new component,
- REPAIRED - the component has been repaired,
- OVERHAUL - the component has been overhauled,
- MODIFIED - modification works were performed on the component,
- TESTED - the component has been tested,
- PROTOTYPE - the component is a prototype.

The «**Assigned resource**» area of the «**Create Component**» dialog box contains the «**Initial component flight time**» field, which is used to enter the component flight time since the start of operation (TSN - time since new, CSN - cycle since new) and after the last repair (TSO - time since overhaul, CSO - cycle since overhaul).

The «**Assigned Resource**» area changes its content depending on the selected component type.

To add a maintenance task for an HT component, use the button with the «+» symbol at the base of the «**Assigned Resource**» area. In order to delete a task from the HT component, it is necessary to use the «-» button located opposite each task.

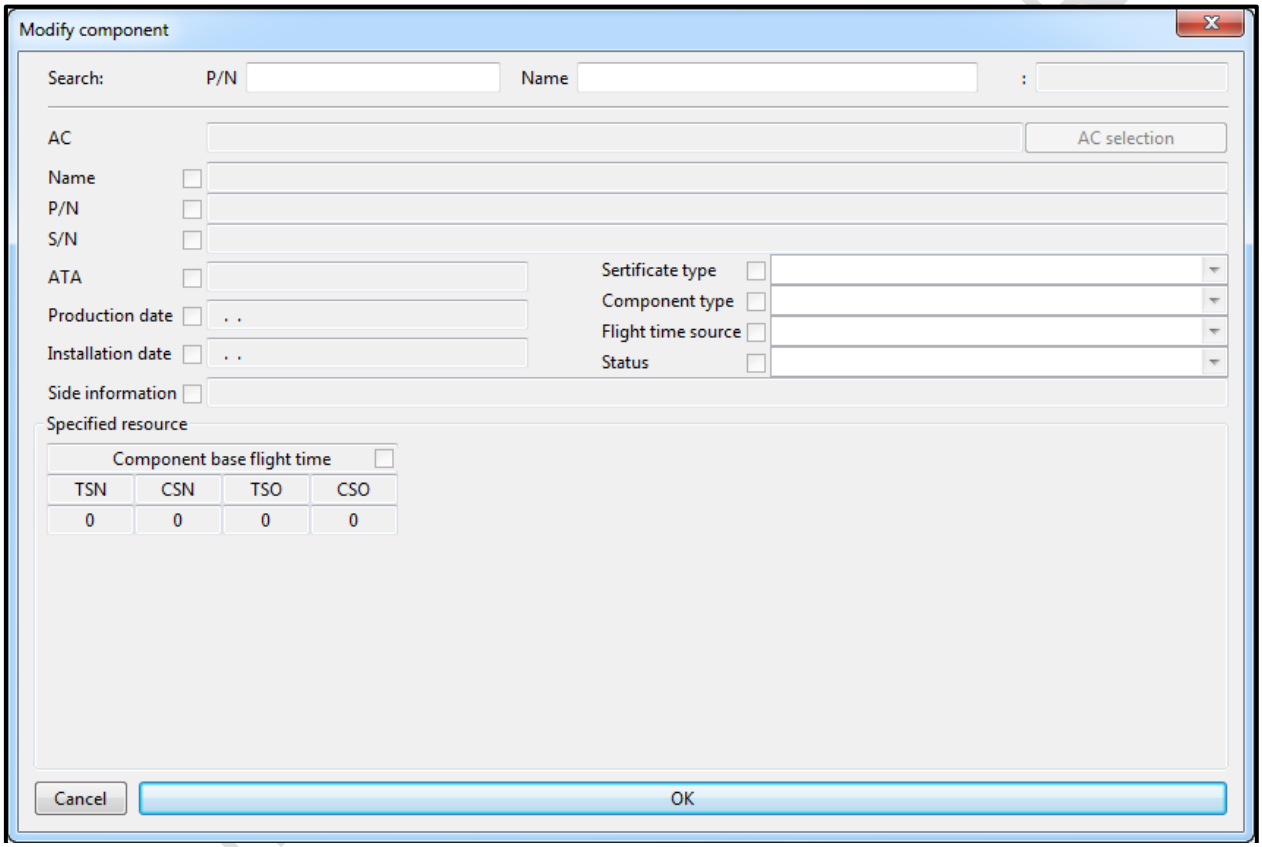
After all the required information about the component has been entered into the «**Create Component**» dialog box, to complete the component creation process on the selected AC, click the «**OK**» button. To save the created components in the application database, click on the «**Save all AC**» button in the «**AC**» tool menu or in the command bar.

«Modify component» action

The **«Modify component»** action is intended to make changes to components on selected AC.

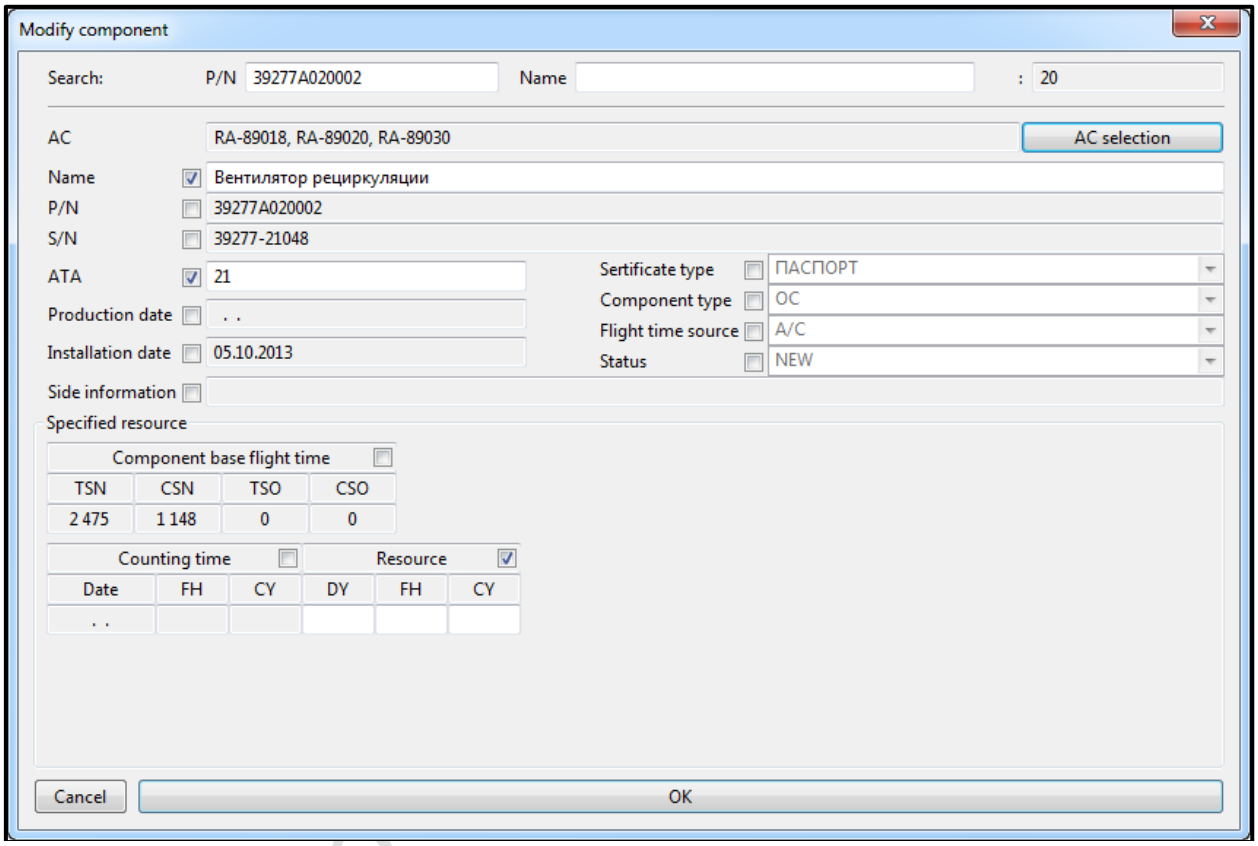
The content of this dialog box and working with it is similar to the **«Create Component»** dialog box, but it still has some differences.

The «**Modify component**» dialog box contains fields for searching for components by part number and name. The search can be performed as a combination of values, or separately. The window also contains a field in which the total number of found components is displayed.



After entering the necessary information about the component into the appropriate search fields, the dialog box will automatically be filled with the data of the component you are looking for.

In order to change the data in the component, you must activate the field in which you want to make any changes. The activation of the field takes place by checking the checkbox in the box next to the field. If the box is not checked, the changes in this field will not be applied to the components when you click the **«OK»** button.



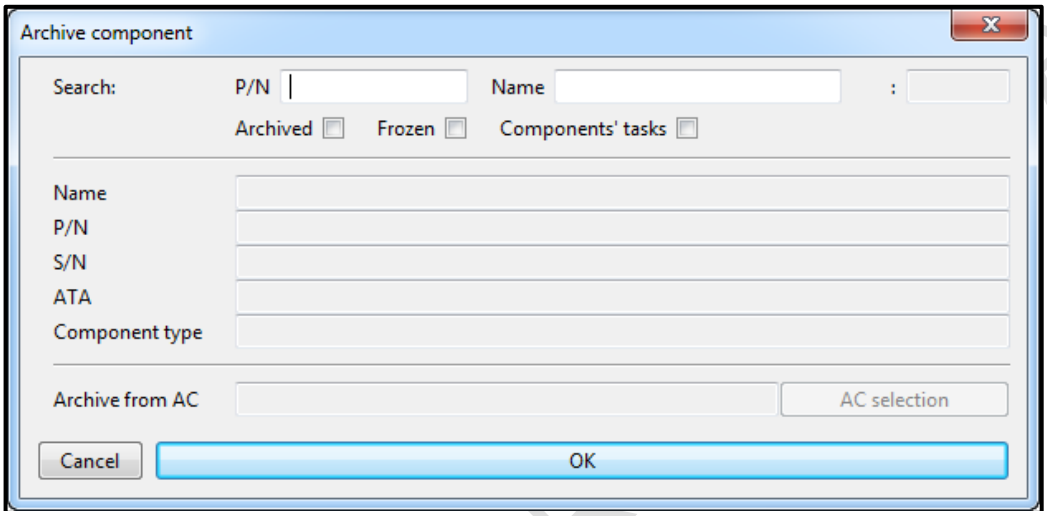
Next, you need to select the registration numbers of the AC, on which components these changes will be distributed.

After making all the necessary changes and determining the registration numbers of the AC, you must click on the **«OK»** button to complete the procedure of distributing changes to the components of the selected AC.

«Delete component» action

The **«Delete component»** action is intended to transfer components to the archive or their final removal from the application.

The **«Delete component»** dialog box contains searching for components fields. Components are searched for in the same way as in the **«Modify component»** dialog box.



After entering the necessary information about the component into the appropriate search fields, the dialog box will automatically be filled with the data of the component you are looking for.

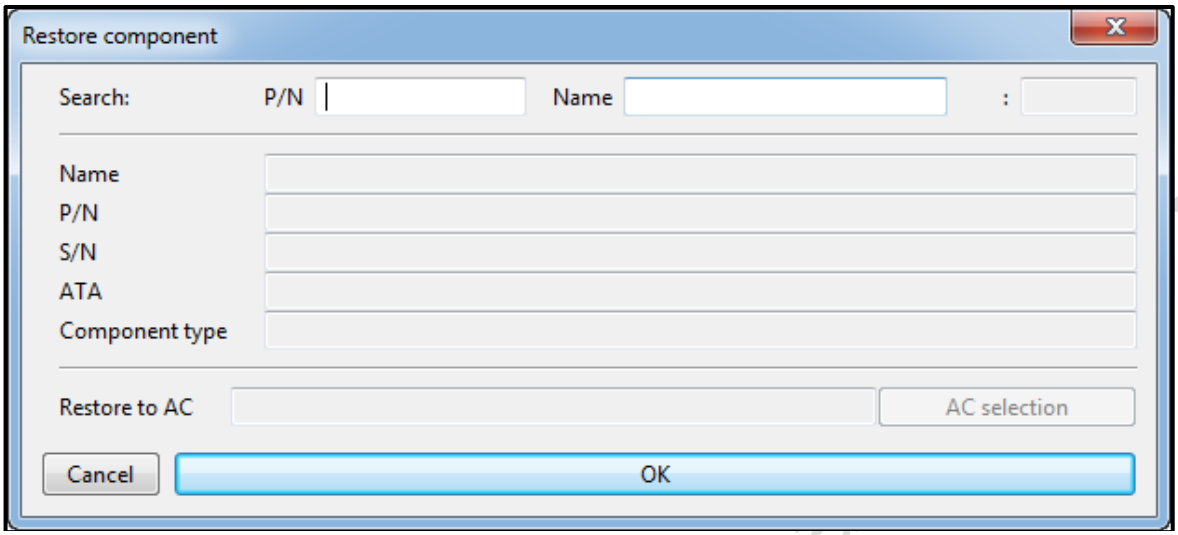
Next you need to select the registration numbers of the aircraft from which the components will be removed, and click the **«OK»** button. The application will offer to move these components to the archive or remove them from the application without the possibility of further restore.

The **«Delete components»** dialog box allows you to delete or transfer the components removed from the AC to the archive, to delete the archive components and their tasks by checking the box next to the required action:

- Selecting the Archive checkbox will only remove archive components.
- Checking the **«Unchecked»** box will result in deleting or transferring of components removed from the AC to archive,
- The **«Components' tasks»** checkbox will remove or transfer to the archive only the tasks of the HT components.
- The combination of the **«Archived»** and **« Components' tasks »** checkboxes will delete the previously transferred HT components tasks from the Archive,
- etc.

«Restore component» action

The **«Restore component»** action is intended to restore components from the archive.



The **«Restore component»** dialog box contains fields for components search. Components are searched for in the same way as in the **«Modify component»** dialog box. The search is made only among the components in the archive.

After entering the necessary information about the component into the appropriate search fields, the dialog box will automatically be filled with the data of the component you are looking for.

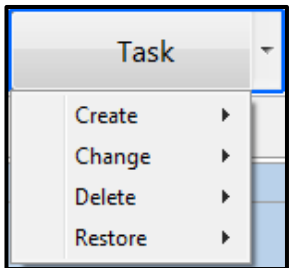
To restore the components, select the AC registration numbers for which the requested components will be restored, and click the OK button. The application will offer to confirm the restoration of components from the archive for the selected AC.

Restore of components from the archive does not affect the history components.

4.3 «Task» tool

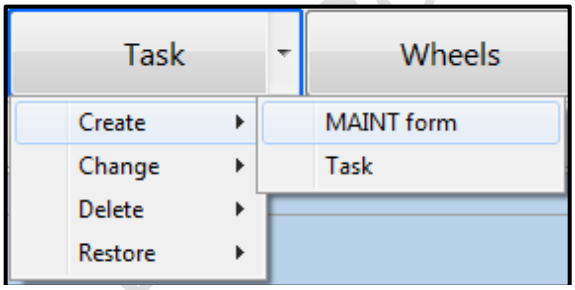
The **«Task»** tool is designed to create tasks and maintenance forms for aircrafts and further work with them, and also serves to restore the tasks and maintenance forms from the archive.

This tool's menu contains a set of actions with MAINT tasks and forms: Create, Modify, Delete, Restore.

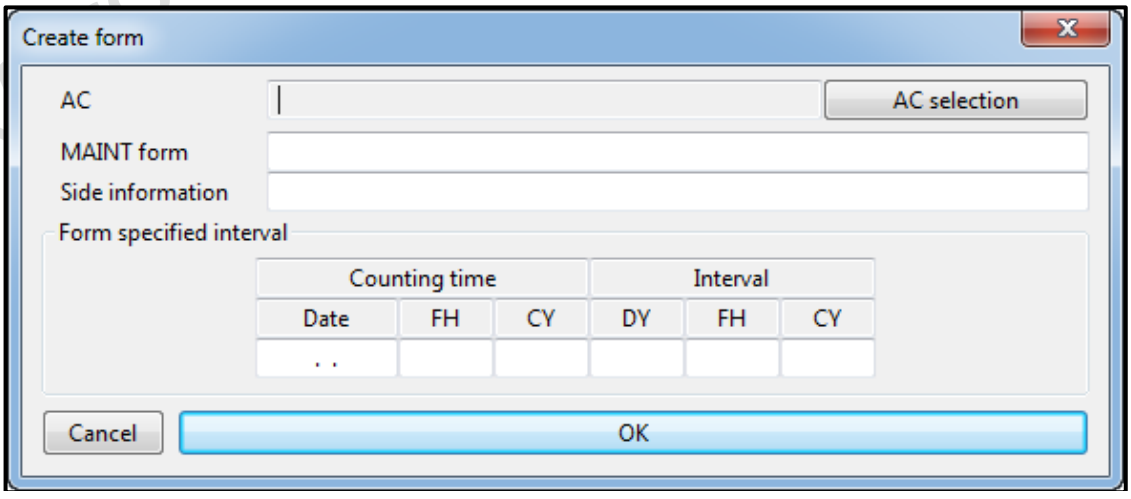


«Create form» action

The **«Create form»** action is used to create a Form on one or several aircrafts.

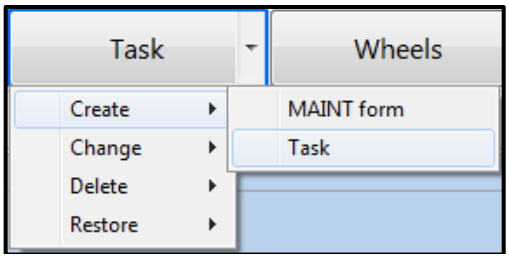


When you hover the cursor over the **«Create»** action and select **«Form»**, the **«Create form»** dialog box with fields for entering information about the Form and the area **«Assigned interval for the form completion»**, which indicates the origin of the created Form and the completion interval for this Forms on aircrafts.

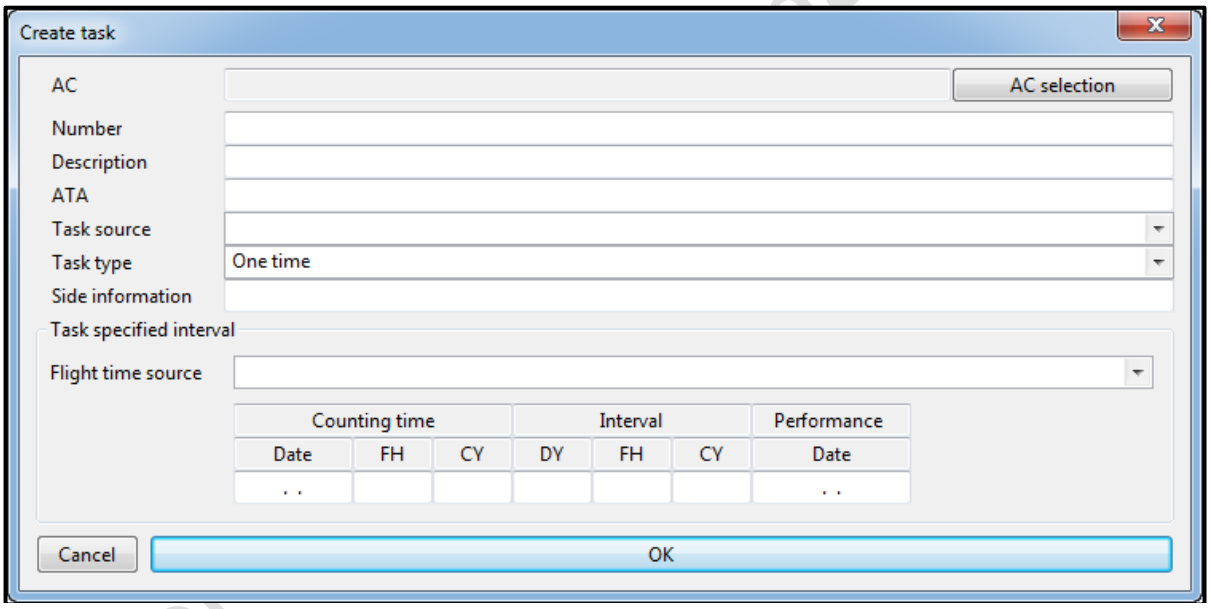


«Create task» action

The **«Create task»** action is used to create a periodic, one-time maintenance task and tasks included in the Form on one or more aircraft.



When you hover the cursor over the **«Create»** action and select **«Task»**, the **«Create task»** dialog box appears with fields for entering information about the maintenance task and the **«Assigned task completion interval»** area, which indicates the origin of the created MAINT task and the interval (or date) of this MAINT task completion.



Tasks in the application are divided into three types:

- Periodic task is a task that requires completion after a strictly specified period.
- A one-time task is a task that is performed once on an aircraft and does not require completion after a strictly specified period.
- A task that is part of the Form, and the completion interval of which is equal to the completion interval of this Form. For such tasks value of the «Task type» field corresponds to the name of the Form which it belongs to.

«Modify form», «Modify task» actions

The **«Modify form»** and **«Modify task»** actions are intended to change the Forms and tasks and distribute these changes onto selected AC.

The contents of the dialog boxes and working with them are similar to the dialog boxes **«Create form»** and **«Create task»**, but it has several differences.

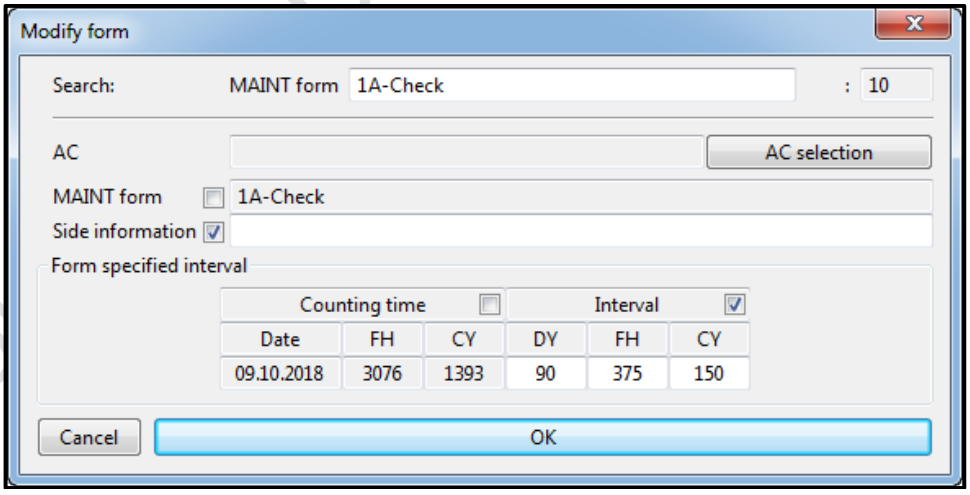
When you hover the cursor over the **«Modify»** action and select **«Form»**, the **«Modify form»** dialog box appears. The dialog box contains a field to search for Forms by form name.

When you hover the cursor over the **«Modify»** action and select **«Task»**, the **«Modify task»** dialog box appears.

The **«Modify task»** dialog box contains fields for searching tasks by number and description. The search can be performed as a combination of values, or separately.

After entering the necessary information about the Form (task) into the search fields, the dialog boxes are automatically filled with the data from the required Form (task).

In order to change the data in the Form (task), you must activate the field in which you want to make any changes. The activation of the field takes place by checking the checkbox in the box next to the field. If the checkbox is not selected, the changes in this field will not be applied to the Forms (tasks) when you click OK.

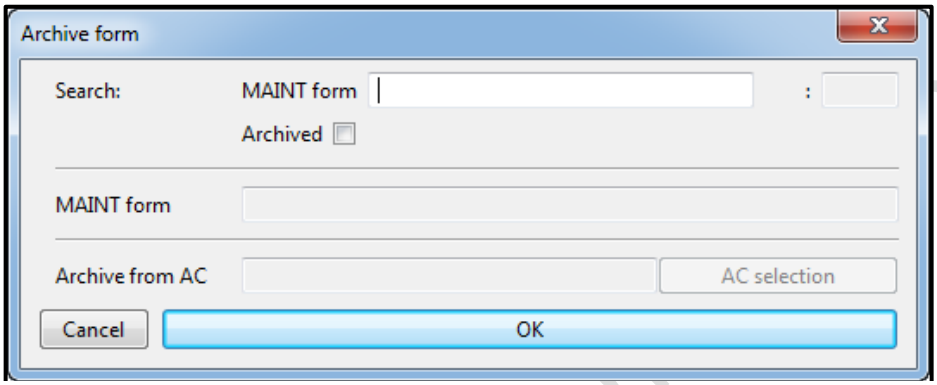


«Delete Form», «Delete task» actions

The **«Delete form»** and **«Delete task»** actions are intended to transfer Forms and tasks to the archive or their final removal from the application.

When you hover the cursor over the **«Delete»** action and select **«Form»**, the dialog box **«Delete form»** appears.

The dialog box contains a field for searching Forms. The search of Forms is made in the same way as in the **«Modify form»** dialog box.



When you hover the cursor over the **«Delete»** action and select **«Task»,** the **«Delete task»** dialog box appears.

The dialog box contains task search fields. Tasks are searched for in the same way as in the **«Modify task»** dialog box.

The **«Delete form»** and **«Delete task»** windows contain a field in which the total number of Forms (tasks) found is displayed.

After entering the necessary information about the Form (task) into the corresponding search fields, the dialog boxes are automatically filled with the data from the required Form (task). To delete the maintenance form (task), you need to select the registration numbers of the aircraft from which the Form (task) will be deleted, and click the **«OK»** button. The application will offer to move the deleted Forms or tasks into the archive or delete them from the application without the possibility of further restore.

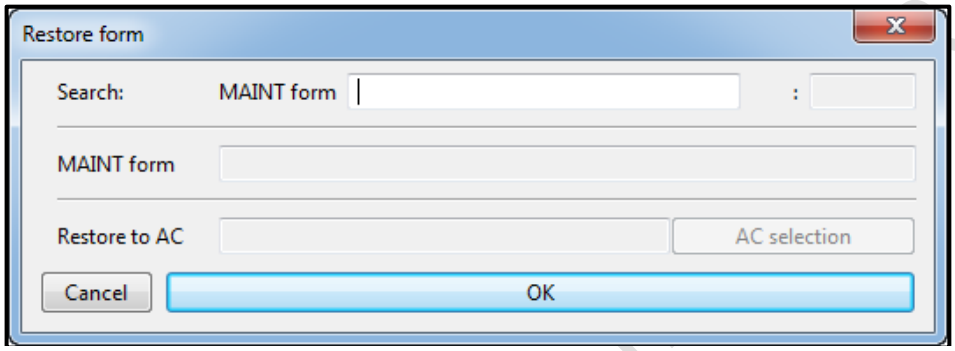
Selecting the **«Archive»** checkbox in the Delete Form and Delete Task dialog boxes allows you to delete only archived MAINT tasks and Forms.

«Restore form», «Restore task» actions

The **«Restore form»** and **«Restore task»** actions are designed to restore the Forms and tasks from the archive.

When you hover the cursor over the **«Restore»** action and select **«Form»**, the **«Restore form»** dialog box appears.

The dialog box contains a field for searching maintenance forms. The search of maintenance forms is carried out in the same way as in the **«Modify form»** dialog box. The search is carried out only among the forms in the archive.



When you hover the cursor over the **«Restore»** action and select **«Task»**, the **«Restore task»** dialog box appears.

The dialog box contains fields for finding tasks. Tasks are searched in the same way as in the **«Modify task»** dialog box. The search is carried out only among the tasks in the archive.

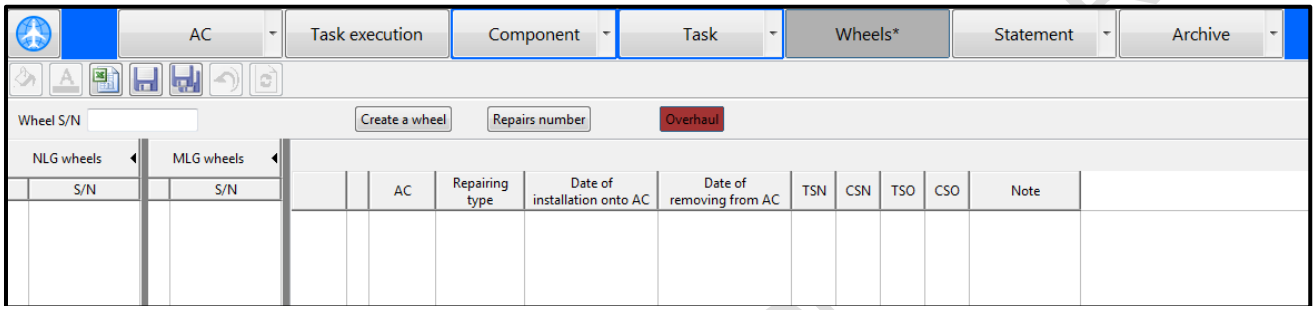
The **«Restore task»** and **«Restore form»** windows contain fields in which the total number of found tasks and maintenance forms is displayed.

After entering the necessary information about the form (task) into the corresponding search fields, the dialog box will be automatically filled with the data of the required form (task). To restore the (task) form, you need to select the AC registration numbers for which the requested form (task) will be restored, and click the **«OK»** button. The application will offer to confirm the restoration of the Form (tasks) from the archive for the selected aircraft.

4.4 «Wheels» tool

The **«Wheels»** tool is a database of wheels used on the AC, containing information about all the required periodic work on the wheels and information on their implementation, linked to a specific wheel. The main purpose of this tool is tracking of works above the wheels of the AC.

When the **«Wheels»** tool is selected, a window appears, on the left of which there are two columns with serial numbers of the wheels of the MLG and NLG, and on the right there is a table with information on repairs of the wheel highlighted in one of the left columns.



Creating wheel repair records

Filling in the specified columns and tables is performed in two ways:

1) By transferring information from the AC COMP tab, provided that the wheel has the status REPAIRED or OVERHAUL.

In order to make the next repair record in this way into the wheel table of the **«Wheels»** tool, you need to select the **«Remove»** or **«Replace»** action opposite the corresponding wheel in the AC COMP tab. The application will require confirmation of the next record into the wheel table of the **«Wheels»** tool for this wheel.

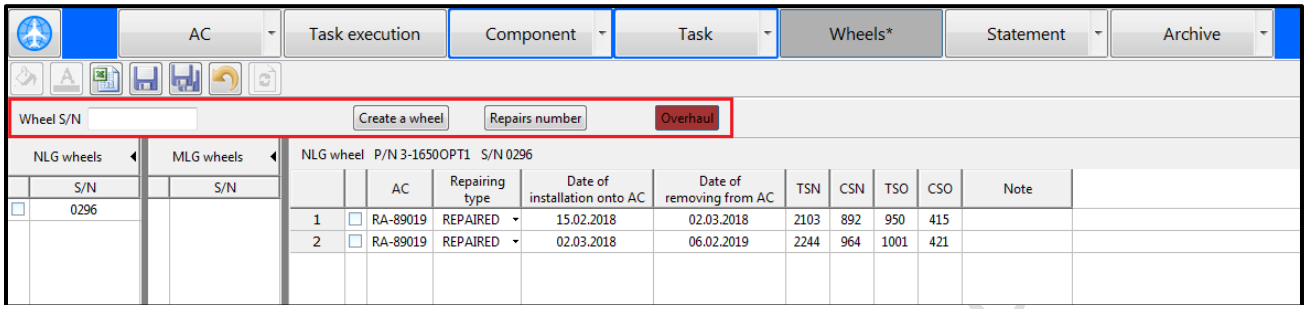
After confirmation, the application analyzes all serial numbers in the MLG and NLG tables, taking into account the part number. If, as a result of the analysis, no coincidence of the serial number was found, the application creates a new wheel record in the serial numbers column of the MLG and NLG wheels with information about this wheel and its first repair. If there is a match, the next repair record is added to the corresponding wheel repair table.

The following information is transferred to the repair table:

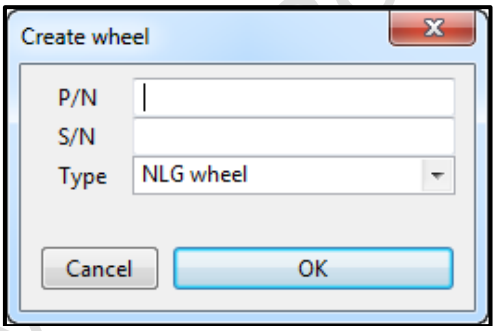
- registration number of the AC which the wheel was removed from,
- repair type (Repaired or overhaul),
- date of installation on the AC (the date is taken from the AC COMP tab),

– date of removal from the AC (date of «removal» of the wheel from this AC by the user),
– flight time from the start of operation (TSN and CSN) and after last repairs (TSO and CSO).

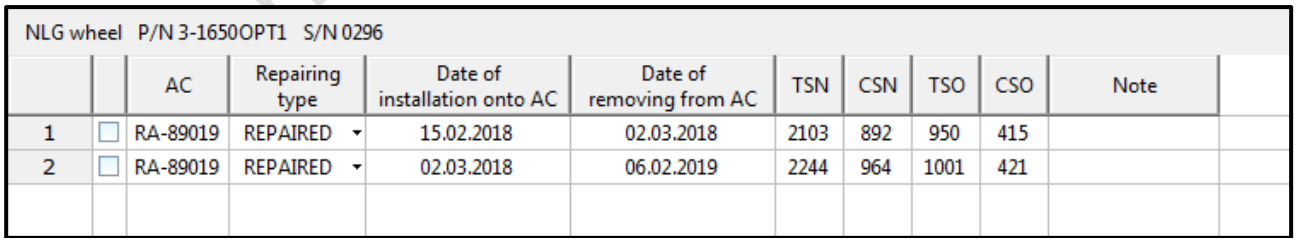
2) At the top of the **«Wheels»** tool are the **«Create wheel»**, **«Repairs number»** and «**Overhaul**» buttons, and the wheel serial number search field.



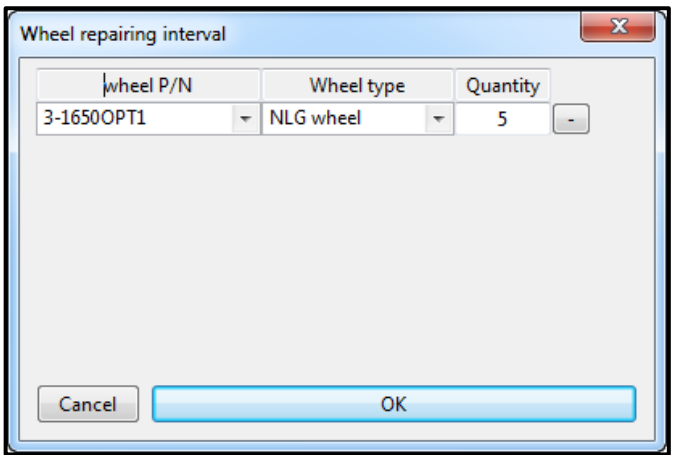
The «**Create wheel**» function is intended for manual entry of data about a new wheel. When you click the **«Create wheel»** button, a window appears with the fields to fill in: wheel P/N, S/N, Wheel type.



Based on the selected wheel type, the application will place the created serial number of the wheel in one of the columns **«MLG wheels»** or **«NLG wheels»**.



The **«Repairs number»** function is intended for entering information about the number of repairs, which is a characteristic of each part wheel number. Using this dialog box, set the frequency of overhauls of the wheel based on the number of simple repairs.



When selecting the **«Repairs number»** function, the **«Wheel repairing interval»** window appears with columns: wheel P/N, Wheel type, Repairs number. Information about the types and part numbers of wheels mounted on the aircraft is automatically generated in this window.

To change the interval to overhaul, you need to change the value in the **«Number»** column of the dialog box. After placing all the required information about the wheels, you must click the **«OK»** button to save the information in the application.

To delete the wheel's part number (in order to prevent changes in the information on it when you press the **«OK»** button), you must press the **«-»** button opposite the corresponding line.

The Overhaul button allows you to highlight the serial numbers of the main and nose wheels, which are about to be overhauled in different colors. This function has the following color display:

- **orange** color signals the residue of one wheel repair before restoration,
- **red** color indicates that there is no residue in wheel repair,
- **burgundy** color means the excess of the established number of repairs for the wheel.

The wheel serial number search field is used to search for the required serial number in the serial numbers of the main and nose wheels columns.

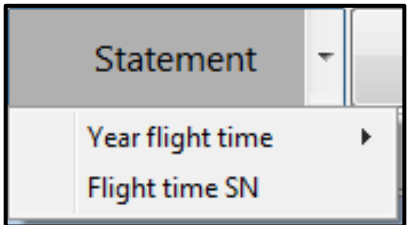
Deleting wheel repair records

Deleting a wheel from the **«MLG wheels»** and **«NLG wheels»** columns of the **«Wheels»** tool (as well as all its repair records) without restoring possibility is made by checking the desired wheel serial number, right-clicking the context menu and selecting the **«Delete»** action.

4.5 «Statement» tool

The «Statement» » tool is designed to generate reports on the flight time of aircraft, their engines, the APU in flight hours and month, quarter, half year, year, or for a user selected period of time cycles. This tool also allows you to generate a report on the total flight time both for a separate aircraft for a month, quarter, half year, year, and throughout the fleet as a whole.

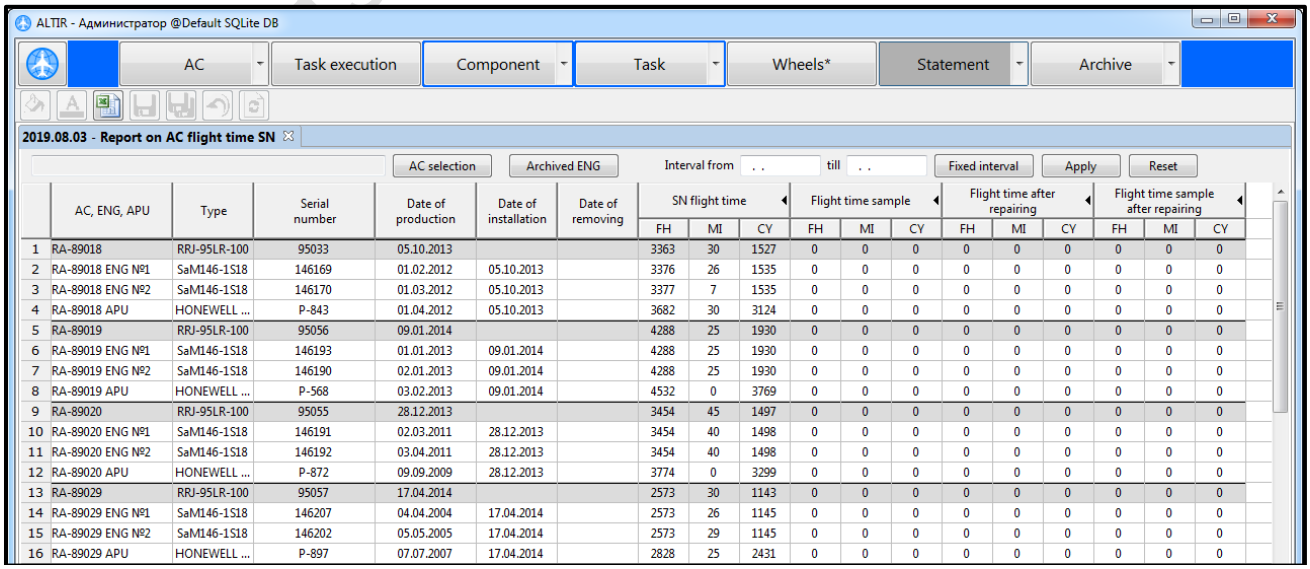
The « Statement» tool menu contains two items, the call of which forms the corresponding reports in the same name tabs in the workspace: **«Flight time SN»** and «**Flight time through a year**».



«Flight time SN» tab

The **«Flight time SN»** tab is intended for generating reports on the flight time of the entire aircraft fleet or each AC individually, their engines, the APU in flight hours and month, quarter, half year, year, or for a user-selected time period cycles. In order to display this tab, you need to call the « Statement» tool menu and select the **«Flight time SN»** option.

This tab consists of a table with columns: AC, ENG, APU, Type, Serial number, Production date, Installation date, Removal date, SN flight time (hours, minutes, cycles), SN flight time sample (hours, minutes, cycles), SN flight time after repair (hours, minutes, cycles), SN flight time sample after repair (hours, minutes, cycles).



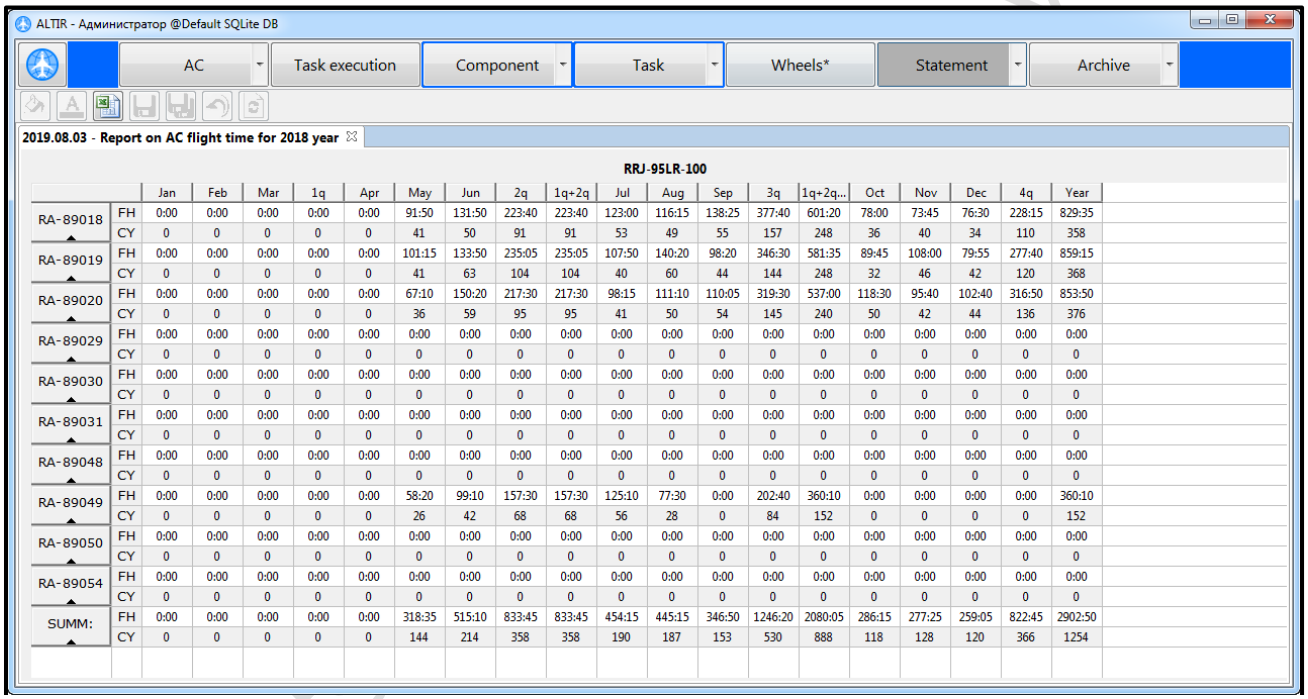
	AC, ENG, APU	Type	Serial number	Date of production	Date of installation	Date of removing	SN flight time			Flight time sample			Flight time after repairing			Flight time sample after repairing		
							FH	MI	CY	FH	MI	CY	FH	MI	CY	FH	MI	CY
1	RA-89018	RRJ-95LR-100	95033	05.10.2013			3363	30	1527	0	0	0	0	0	0	0	0	0
2	RA-89018 ENG №1	SaM146-1S18	146169	01.02.2012	05.10.2013		3376	26	1535	0	0	0	0	0	0	0	0	0
3	RA-89018 ENG №2	SaM146-1S18	146170	01.03.2012	05.10.2013		3377	7	1535	0	0	0	0	0	0	0	0	0
4	RA-89018 APU	HONEWELL ...	P-843	01.04.2012	05.10.2013		3682	30	3124	0	0	0	0	0	0	0	0	0
5	RA-89019	RRJ-95LR-100	95056	09.01.2014			4288	25	1930	0	0	0	0	0	0	0	0	0
6	RA-89019 ENG №1	SaM146-1S18	146193	01.01.2013	09.01.2014		4288	25	1930	0	0	0	0	0	0	0	0	0
7	RA-89019 ENG №2	SaM146-1S18	146190	02.01.2013	09.01.2014		4288	25	1930	0	0	0	0	0	0	0	0	0
8	RA-89019 APU	HONEWELL ...	P-568	03.02.2013	09.01.2014		4532	0	3769	0	0	0	0	0	0	0	0	0
9	RA-89020	RRJ-95LR-100	95055	28.12.2013			3454	45	1497	0	0	0	0	0	0	0	0	0
10	RA-89020 ENG №1	SaM146-1S18	146191	02.03.2011	28.12.2013		3454	40	1498	0	0	0	0	0	0	0	0	0
11	RA-89020 ENG №2	SaM146-1S18	146192	03.04.2011	28.12.2013		3454	40	1498	0	0	0	0	0	0	0	0	0
12	RA-89020 APU	HONEWELL ...	P-872	09.09.2009	28.12.2013		3774	0	3299	0	0	0	0	0	0	0	0	0
13	RA-89029	RRJ-95LR-100	95057	17.04.2014			2573	30	1143	0	0	0	0	0	0	0	0	0
14	RA-89029 ENG №1	SaM146-1S18	146207	04.04.2004	17.04.2014		2573	26	1145	0	0	0	0	0	0	0	0	0
15	RA-89029 ENG №2	SaM146-1S18	146202	05.05.2005	17.04.2014		2573	29	1145	0	0	0	0	0	0	0	0	0
16	RA-89029 APU	HONEWELL ...	P-897	07.07.2007	17.04.2014		2828	25	2431	0	0	0	0	0	0	0	0	0

In the **«Flight time SN»** tab header there are filters that allow you to select only the required AC registration numbers from the entire fleet and sample the flight time of the AC, engines, the APU for a certain period of time.

«Year flight time» tab

The **«Year flight time»** tab is intended for generating reports on the aircraft fleet flight time in flight hours and cycles for a month, quarter, half year, year. This tab displays the total value of flight time for each AC separately and throughout the fleet as a whole by months, quarters, half year and for the year as a whole.

To display the **«Year flight time»** tab table, you need to call the «Statement » tool menu, select the **«Year flight time»** option and the required year. The report for a certain year becomes available if there is an flight time for that year.



		Jan	Feb	Mar	1q	Apr	May	Jun	2q	1q+2q	Jul	Aug	Sep	3q	1q+2q...	Oct	Nov	Dec	4q	Year
RA-89018	FH	0:00	0:00	0:00	0:00	0:00	91:50	131:50	223:40	223:40	123:00	116:15	138:25	377:40	601:20	78:00	73:45	76:30	228:15	829:35
	CY	0	0	0	0	0	41	50	91	91	53	49	55	157	248	36	40	34	110	358
RA-89019	FH	0:00	0:00	0:00	0:00	0:00	101:15	133:50	235:05	235:05	107:50	140:20	98:20	346:30	581:35	89:45	108:00	79:55	277:40	859:15
	CY	0	0	0	0	0	41	63	104	104	40	60	44	144	248	32	46	42	120	368
RA-89020	FH	0:00	0:00	0:00	0:00	0:00	67:10	150:20	217:30	217:30	98:15	111:10	110:05	319:30	537:00	118:30	95:40	102:40	316:50	853:50
	CY	0	0	0	0	0	36	59	95	95	41	50	54	145	240	50	42	44	136	376
RA-89029	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA-89030	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA-89031	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA-89048	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA-89049	FH	0:00	0:00	0:00	0:00	0:00	58:20	99:10	157:30	157:30	125:10	77:30	0:00	202:40	360:10	0:00	0:00	0:00	0:00	360:10
	CY	0	0	0	0	0	26	42	68	68	56	28	0	84	152	0	0	0	0	152
RA-89050	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RA-89054	FH	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUMM:	FH	0:00	0:00	0:00	0:00	0:00	318:35	515:10	833:45	833:45	454:15	445:15	346:50	1246:20	2080:05	286:15	277:25	259:05	822:45	2902:50
	CY	0	0	0	0	0	144	214	358	358	190	187	153	530	888	118	128	120	366	1254

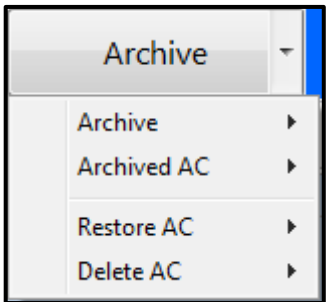
The aircraft flight time is automatically transferred into this table from the «NAR» tabs of each AC and is not subject to correction. The summation of the monthly flight time for the formation of data by quarters and year for each AC separately and throughout the fleet as a whole is performed automatically. The «SUMM» line indicates the sum of flight time for months, quarters, year throughout the fleet.

Note: deleting the aircraft's record in **«NAR»** tab will change the data in the **«Year flight time»**.

4.6 «Archive» tool

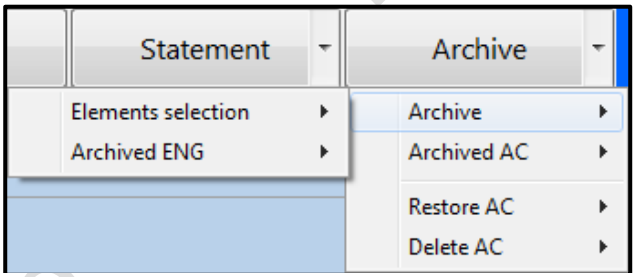
The archive is intended for containing information about 1) tasks, Forms and components that are not subject to registration on aircraft, 2) aircraft that have been decommissioned. To open the archive working area, click on the **«Archive»** tool button.

The menu of this tool contains a list of actions with the archive: Archive, Archived AC, Restore AC, Delete AC.



«Archive» action

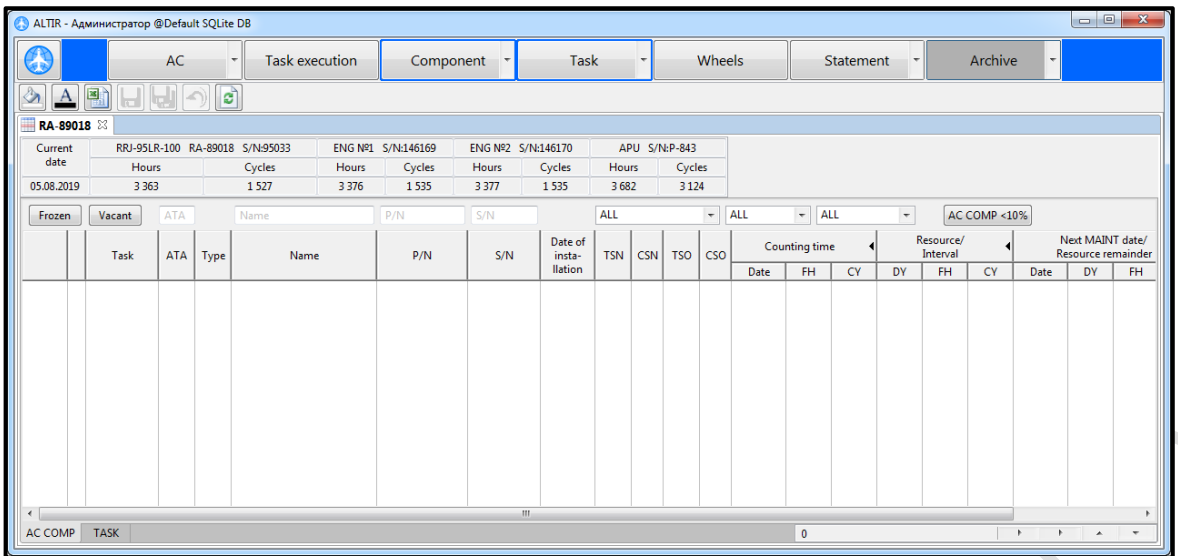
When choosing the **«Archive»** action there is a subsections menu: Element selection and Archived ENG.

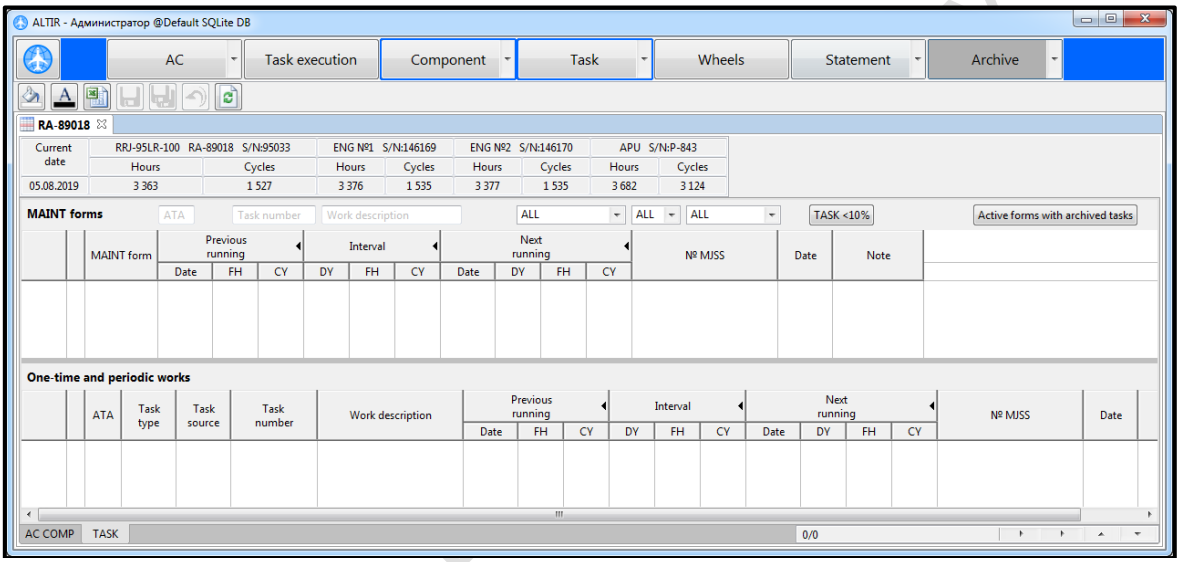


«Element selection» subsection

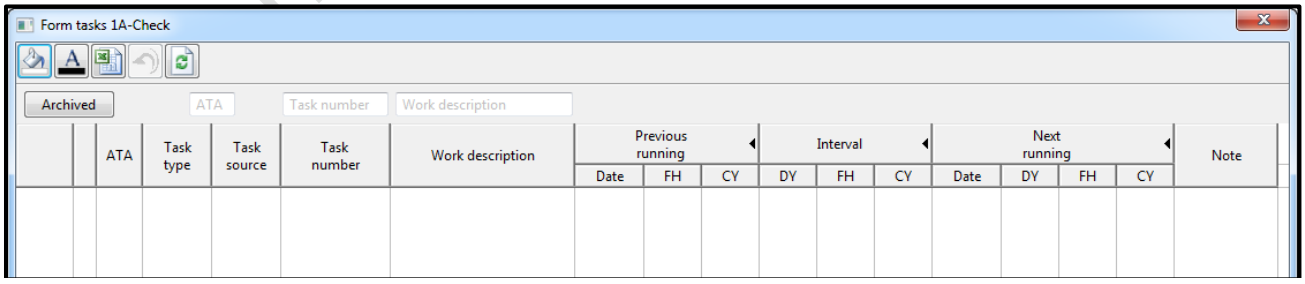
When you hover the cursor over the **«Elements selection»** subsection list with the AC registration numbers appears. Clicking with the left mouse button on any of the numbers will bring up the A / C COMP, TASK tabs with information about the archive components, forms and tasks of this AC in service into the working area. The tabs tables form and working with them are identical to the tables in the **«AC»** tool tabs.

The calculation of the form completion intervals and MAINT tasks, the flight time of the components and their resources in the tabs of the archived AC is not carried out.



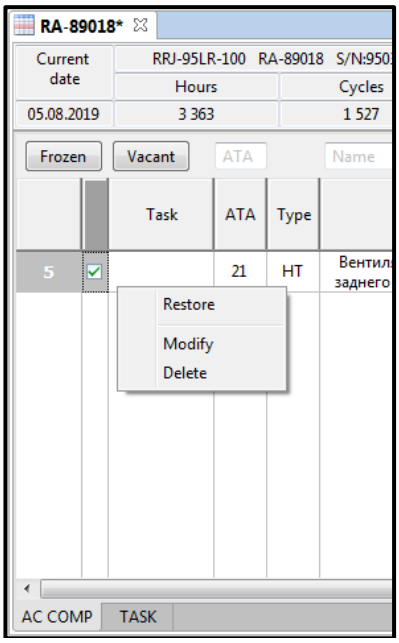


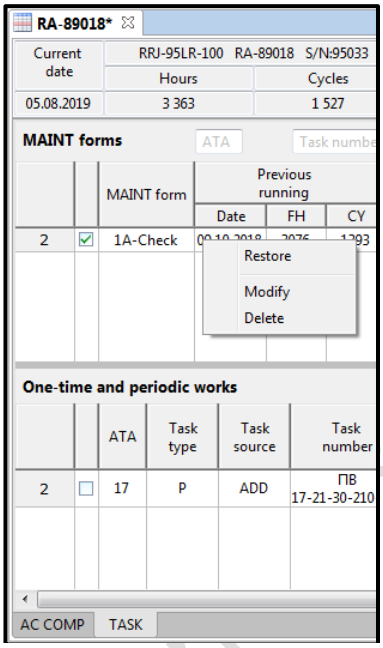
The TASK tab contains the **«Act. forms with arch. tasks** «(Active forms with archive tasks). By pressing this button, the existing Forms, which have tasks transferred to the archive, are being outputted.



The task table of the Form contains the **«Archive»** button. By pressing this button, the existing Forms, which have tasks transferred to the archive, are being output.

When you check the checkbox next to the required component, form, task in the AC COMP, TASK tabs and click the right mouse button, appears a list of actions with the form, task, component: Delete, Modify, Restore.

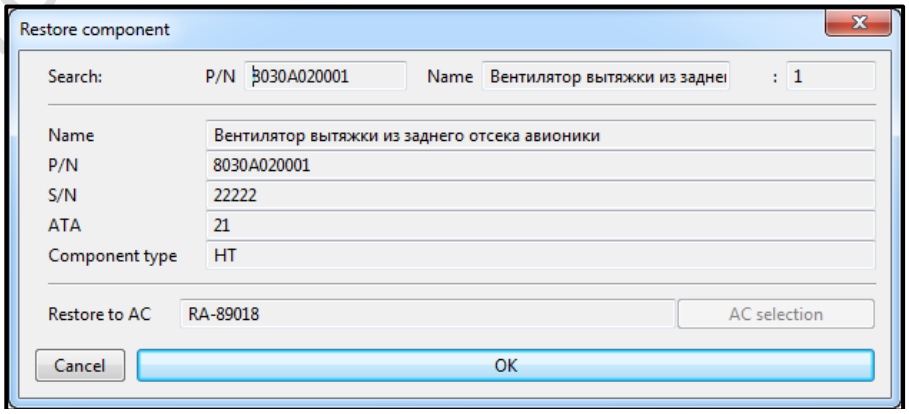


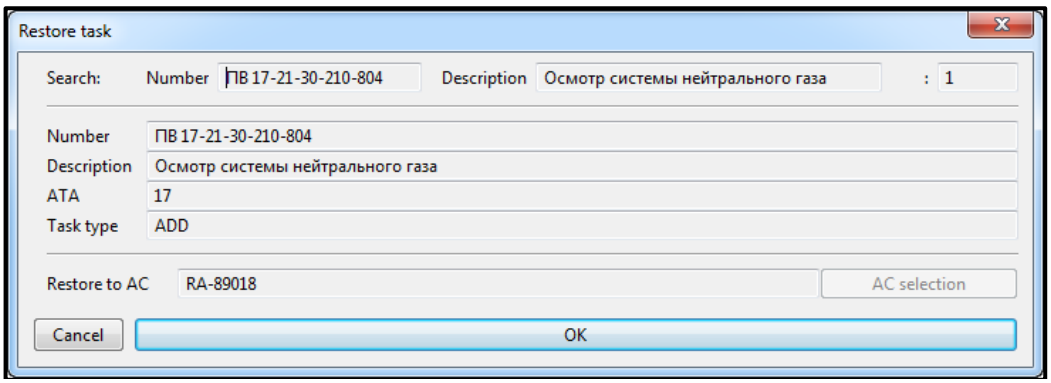


To delete a task, form, component from the application without the possibility of restore, you must select the «**Delete**» action. The application will offer to confirm the deletion of information about the task, form, component from the application without the possibility of restore.

When you select the «**Modify**» action, dialog box of a component, a task, a form appears in which you can view information about a component, a task, a form, and change it. To confirm the changes made, you must click the «**OK**» button at the bottom of the dialog box.

The «**Restore**» action allows you to return a task, a form, a component for an aircraft in service from the archive. If you select the «**Restore**» action, a dialog box appears with the completed information about the component the form or the MAINT task being restored will. To restore, you must click the «**OK**» button at the bottom of the dialog box and confirm this action.





The count of MAINT tasks and forms, component resources completion deadlines begins automatically after they are restored from the archive to the tabs of the existing aircraft.

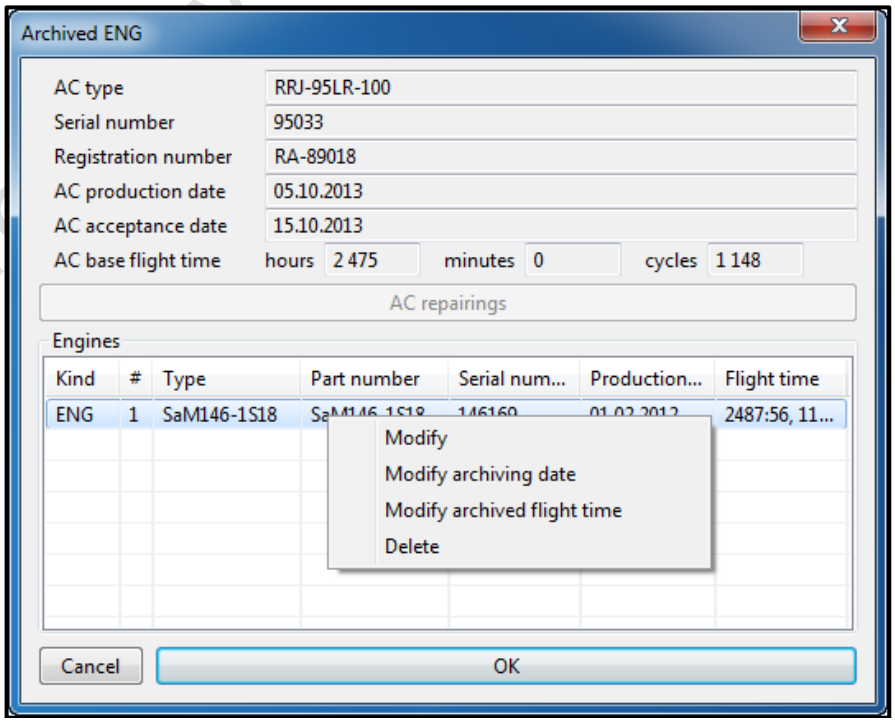
«Archive ENG» subsection

When you hover the cursor on the subsection **«Archive ENG»** a list of AC registration numbers, which have deleted / removed engines or APU, appears.

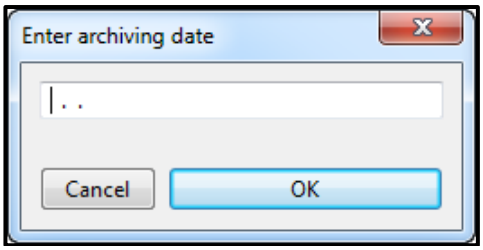
After selecting the required aircraft registration number, the **«Archive ENG»** dialog box appears.

The **«Archive ENG»** dialog box contains information about all removed and replaced engines (APU) of AC for the entire period of its operation and allows you to perform the following actions with them: Modify, Modify archiving date, Modify archived flight time at the time of removal, Delete.

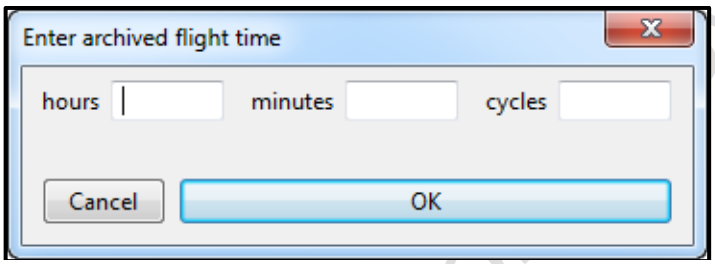
To call up the list of actions, select the required engine (APU) and right-click in the table.



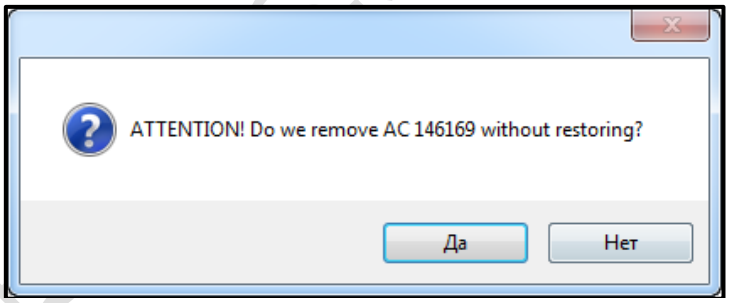
«Change archiving date» action allows you to change the date of delete / removal of the engine (APU) from the aircraft, which was entered into the window when performing the engine replacement procedure (APU) on the aircraft.



«Change archived flight time» action is intended to change the engine flight time (APU) at the time of the removal of the aircraft.



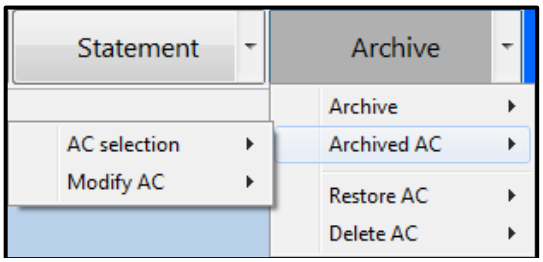
The **«Delete»** action allows you to permanently remove the engine (APU) from the aircraft without the possibility of restoration.



«Archived AC» action

The **«Archive»** tool allows you to store information about aircrafts that were decommissioned by transfer and transferred to the application archive.

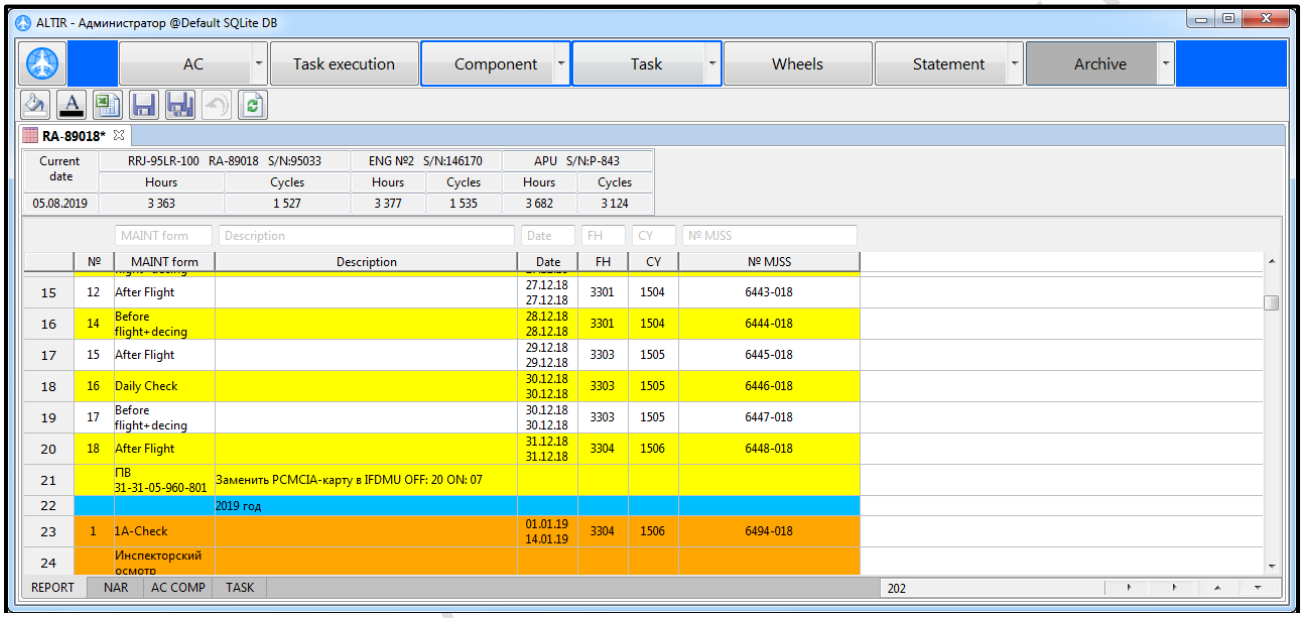
When you hover the cursor over the **«Archived AC»** action, a menu of subsections: AC Selection, Modify AC, appears.



«AC selection» subsection

When you hover the cursor over the **«AC selection»** subsection, a list of the aircraft registration numbers appears. Left-clicking on any of the numbers will bring the REP, NAR, A / C COMP, TASK tabs of this aircraft into the working area.

These tabs contain all information about the work performed on the aircraft, the airframe's flight time at the time of transferring the aircraft to the archive, engines and APU, components, MAINT tasks and forms at the time of transferring the aircraft to the archive. The form of tables in tabs and working with them are identical to the tables in the active aircraft tabs.



When the aircraft is transferred to the archive, its registration number is deleted from the list of the **«Element selection»** subsection.

«Modify AC» subsection

When you hover the cursor over the **«Modify AC»** subsection, a list of registration numbers of the aircraft appears.

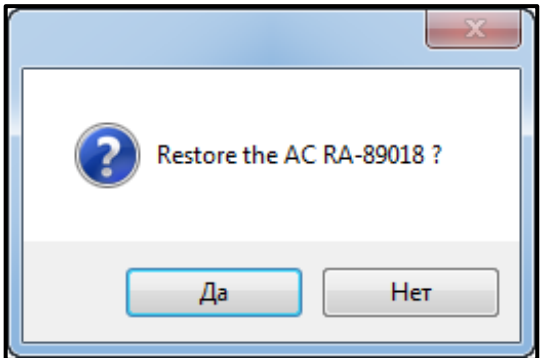
Clicking with the left mouse button on any of the numbers will open the dialog box **«Modify AC»** for this archive AC. The composition and operation with the dialog box is identical to the **«Modify AC»** dialog box for the active aircraft.

«Restore AC» action

This action restores the archive AC to the list of active AC called through the **«AC»** application tool.

To restore the aircraft from the archive, you must hover over the **«Restore AC»** action and choose needed number in the appeared list of registration numbers.

After this, a restore confirmation window will appear.



The elements of the aircraft (components, forms, tasks, engines, APU) that were transferred to the archive during its operation will not be restored with the AC.

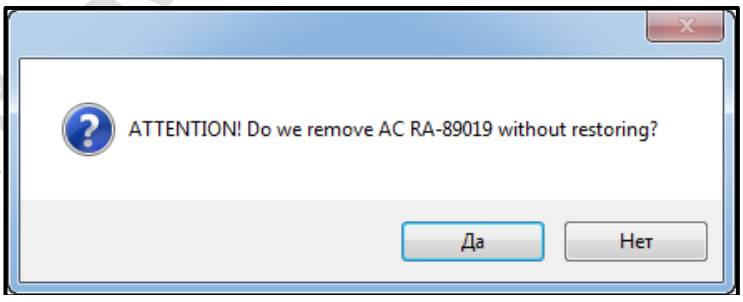
In this case, the registration number of the restored AC will appear in the list of the **«Elements selection»** subsection and will return access to the elements archived during the operation of the AC.

«Delete AC» action

This action completely removes the archived AC from the application and removes all information that was entered during the period of work with this AC.

To delete aircraft from the archive, move the cursor to the **«Delete AC»** action and select the required AC in the list of registration numbers that appears.

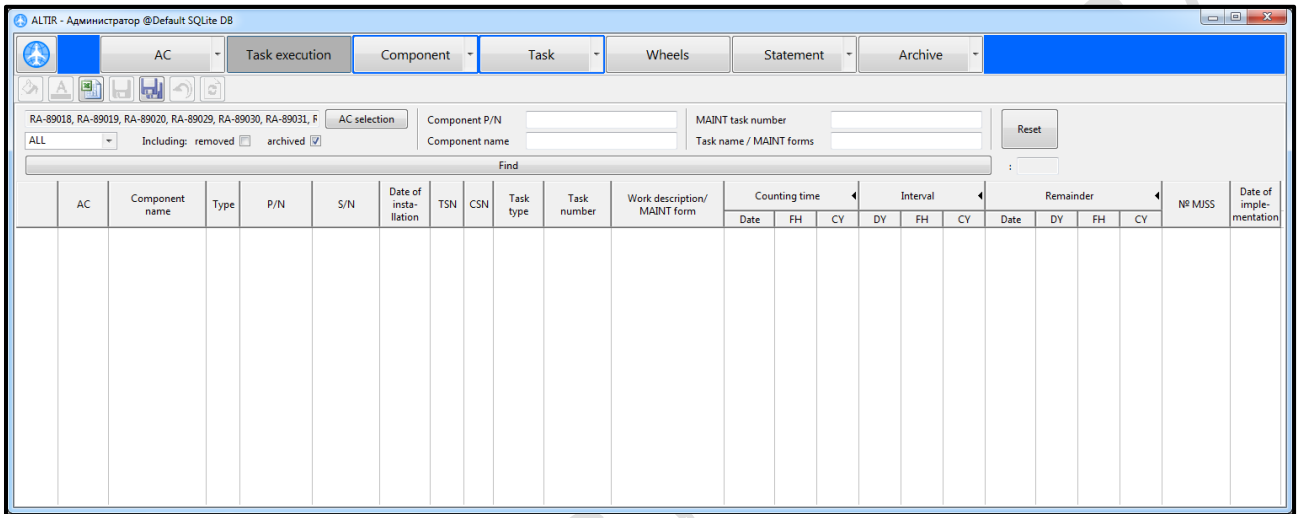
After that there will be a window to confirm the deletion of the aircraft without the possibility of its restoration.



4.7 «Task execution» tool

The **«Task execution»** tool is designed to display information about the components and tasks associated with these components, Forms and tasks, which are recorded in the tabs of all active and archival AC.

This tool consists of a table with columns: AC, Component Name, P/N, S/N, Installation Date, Task Number, Task Description / MAINT Type, Origin time (date, hours, cycles), Interval (days , hours, cycles), Next running (date, days, hours, cycles), Execution date, № MJSS.

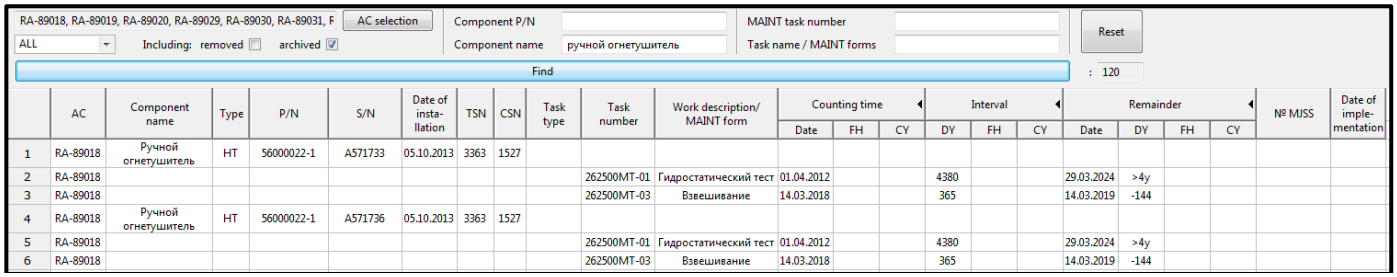


Filters of information displayed in the table are located in the **«Tasks execution»** tool header.

Description of «Task execution» tool search fields

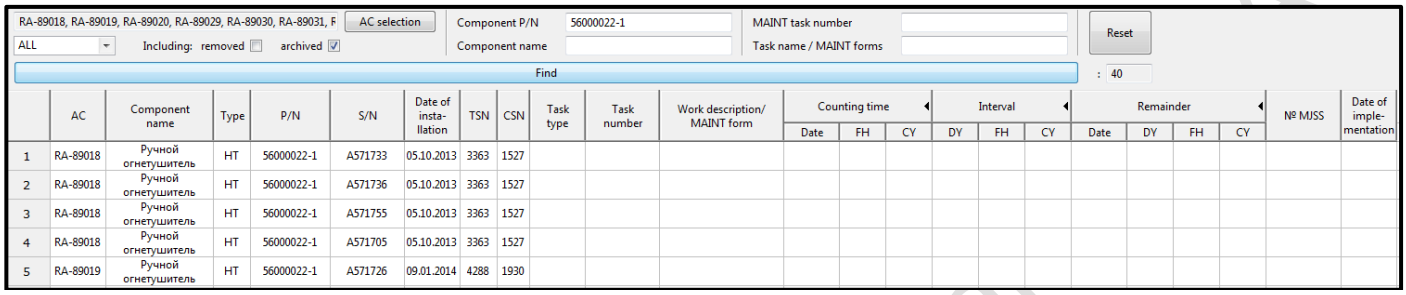
The **«Component P/N»** and **«Component name»** text boxes are used to filter the found components by the values of their corresponding string attributes.

To display information about a component, you must first select a filter by object class - AC COMP, after which it becomes possible to enter the part number and the name of the component in the corresponding text fields. If you specify only the name of the component in the table then only information about the components along with their tasks will be displayed.



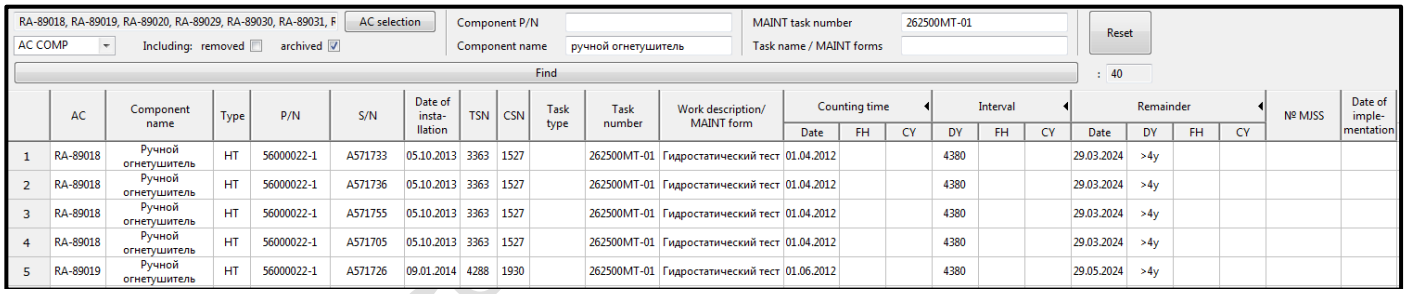
	AC	Component name	Type	P/N	S/N	Date of insta-llation	TSN	CSN	Task type	Task number	Work description/ MAINT form	Counting time			Interval			Remainder				№ MJSS	Date of imple-mentation
												Date	FH	CY	DY	FH	CY	Date	DY	FH	CY		
1	RA-89018	Ручной огнетушитель	HT	56000022-1	A571733	05.10.2013	3363	1527															
2	RA-89018									262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
3	RA-89018									262500MT-03	Взвешивание	14.03.2018			365			14.03.2019	-144				
4	RA-89018	Ручной огнетушитель	HT	56000022-1	A571736	05.10.2013	3363	1527															
5	RA-89018									262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
6	RA-89018									262500MT-03	Взвешивание	14.03.2018			365			14.03.2019	-144				

If you specify only the **part number of the component**, the table displays information about the components without their tasks.



	AC	Component name	Type	P/N	S/N	Date of insta-llation	TSN	CSN	Task type	Task number	Work description/ MAINT form	Counting time			Interval			Remainder				№ MJSS	Date of imple-mentation
												Date	FH	CY	DY	FH	CY	Date	DY	FH	CY		
1	RA-89018	Ручной огнетушитель	HT	56000022-1	A571733	05.10.2013	3363	1527															
2	RA-89018	Ручной огнетушитель	HT	56000022-1	A571736	05.10.2013	3363	1527															
3	RA-89018	Ручной огнетушитель	HT	56000022-1	A571755	05.10.2013	3363	1527															
4	RA-89018	Ручной огнетушитель	HT	56000022-1	A571705	05.10.2013	3363	1527															
5	RA-89019	Ручной огнетушитель	HT	56000022-1	A571726	09.01.2014	4288	1930															

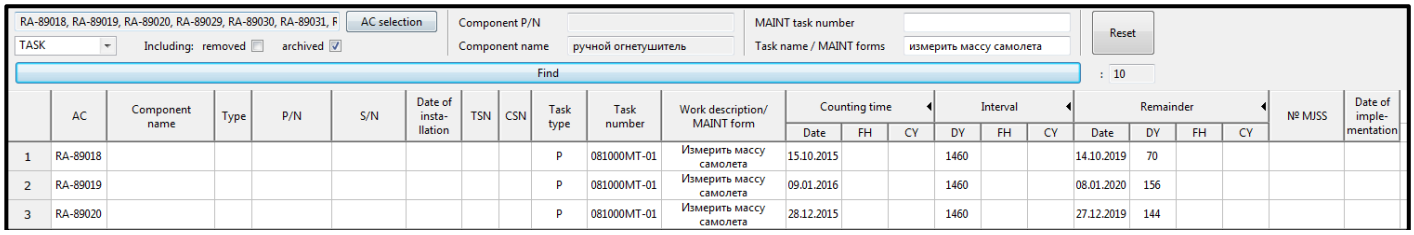
When specifying the **part number** and / or the **name of the component** along with the number of the MAINT task associated with this component, there is a possibility to display information about the requested task of the MAINT component.



	AC	Component name	Type	P/N	S/N	Date of insta-llation	TSN	CSN	Task type	Task number	Work description/ MAINT form	Counting time			Interval			Remainder				№ MJSS	Date of imple-mentation
												Date	FH	CY	DY	FH	CY	Date	DY	FH	CY		
1	RA-89018	Ручной огнетушитель	HT	56000022-1	A571733	05.10.2013	3363	1527		262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
2	RA-89018	Ручной огнетушитель	HT	56000022-1	A571736	05.10.2013	3363	1527		262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
3	RA-89018	Ручной огнетушитель	HT	56000022-1	A571755	05.10.2013	3363	1527		262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
4	RA-89018	Ручной огнетушитель	HT	56000022-1	A571705	05.10.2013	3363	1527		262500MT-01	Гидростатический тест	01.04.2012			4380			29.03.2024	>4y				
5	RA-89019	Ручной огнетушитель	HT	56000022-1	A571726	09.01.2014	4288	1930		262500MT-01	Гидростатический тест	01.06.2012			4380			29.05.2024	>4y				

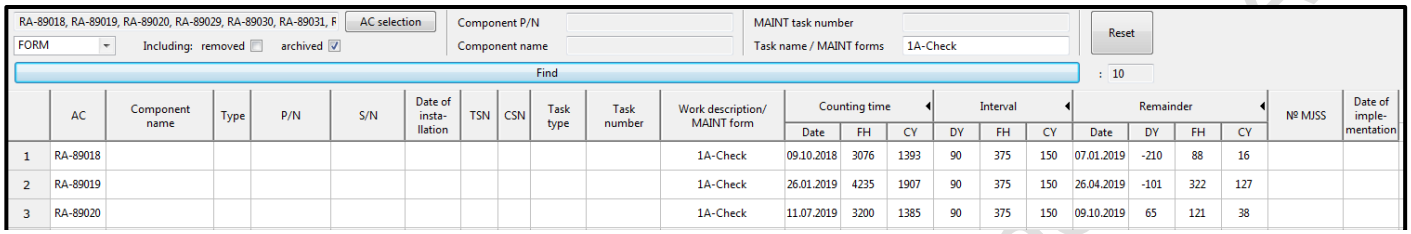
«MAINT task number» and **«Name of Task / Form»** text fields are used to filter the found tasks and Forms by the values of their respective string attributes.

To display information about the MAINT task, you must first select a filter by object class - TASK, after which it becomes possible to enter the name and number of the MAINT task in the appropriate text fields. The search can be performed by the name and number of the maintenance task at the same time or separately.



	AC	Component name	Type	P/N	S/N	Date of insta-llation	TSN	CSN	Task type	Task number	Work description/ MAINT form	Counting time			Interval			Remainder				№ MJSS	Date of imple-mentation
												Date	FH	CY	DY	FH	CY	Date	DY	FH	CY		
1	RA-89018								P	081000MT-01	Измерить массу самолета	15.10.2015			1460			14.10.2019	70				
2	RA-89019								P	081000MT-01	Измерить массу самолета	09.01.2016			1460			08.01.2020	156				
3	RA-89020								P	081000MT-01	Измерить массу самолета	28.12.2015			1460			27.12.2019	144				

To display information about the Form, you need to select a filter by object class - FORM, after which you can enter the name of the Form in the corresponding text field.



	AC	Component name	Type	P/N	S/N	Date of insta-llation	TSN	CSN	Task type	Task number	Work description/ MAINT form	Counting time			Interval			Remainder				№ MJSS	Date of imple-mentation
												Date	FH	CY	DY	FH	CY	Date	DY	FH	CY		
1	RA-89018										1A-Check	09.10.2018	3076	1393	90	375	150	07.01.2019	-210	88	16		
2	RA-89019										1A-Check	26.01.2019	4235	1907	90	375	150	26.04.2019	-101	322	127		
3	RA-89020										1A-Check	11.07.2019	3200	1385	90	375	150	09.10.2019	65	121	38		

The **«Reset»** button of the **«Tasks execution»** tool allows you to reset previously requested information in the table and filter settings.

To perform a search, you must click the **«Find»** button.

5. Command bar

Command bar contains buttons for calling frequently used functions:

 - changing background color of selected row of active table,

 - changing font color of selected row of active table,

 - exporting active table to Excel,

 - saving of selected aircraft or wheels information,

 - saving of all aircrafts and wheels information,

 - undoing the last change of active table,

 - refreshing active table.

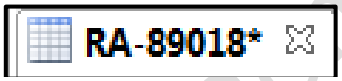
6. Tabs of selected AC in «AC» and «Archive» tools

The AC tabs (REPORT, NAR, AC COMP, TASK, PLAN) are intended for entering information about the work performed, tracking the flight time on the aircraft, engines and the APU, maintaining the configuration and tracking the execution of the Forms and tasks.

The tabs are located in the lower window of the corresponding AC. Switching between tabs is done by left-clicking on the tab title.

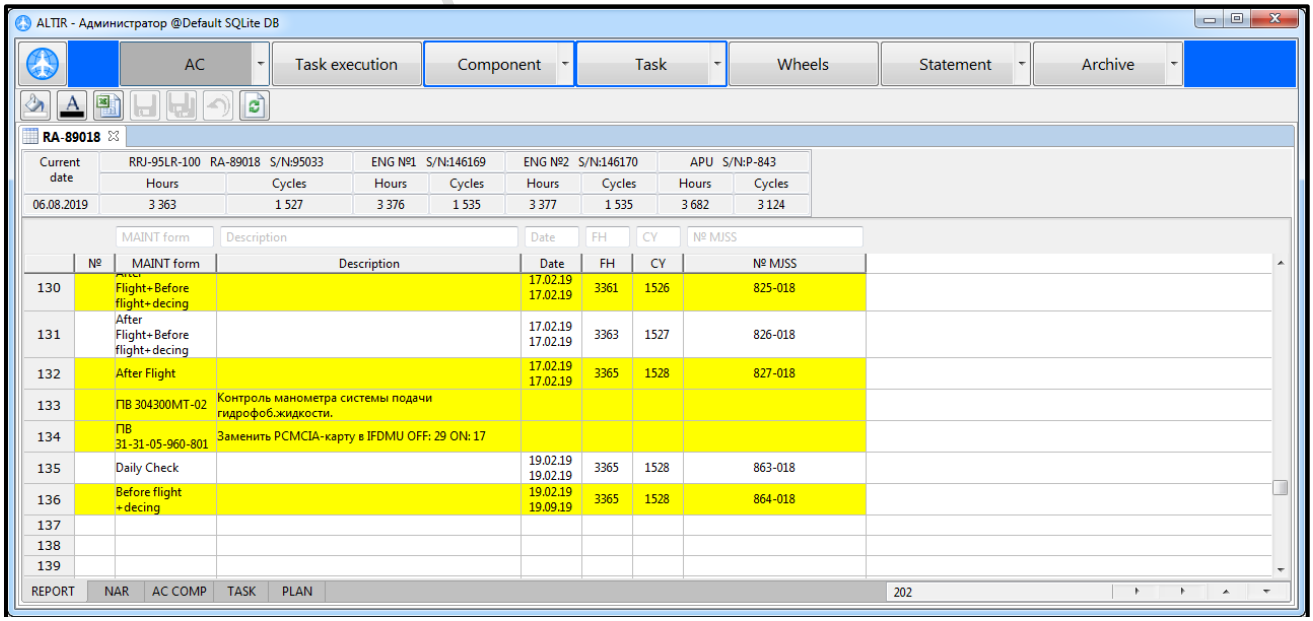
To close all the tabs of the selected aircraft, click on the «x» symbol located next to the aircraft registration number; however, the unchanged information is not deleted. The symbol «*» next to the AC registration number means that there are unsaved changes in this aircraft.

The top of each tab contains brief information about the aircraft (AC type, AC registration and serial number, current AC flight time in hours and cycles) and its engines (position and serial number of engine, current flight time in hours and cycles) and APU (the serial number of the APU, its current flight time in hours and cycles).

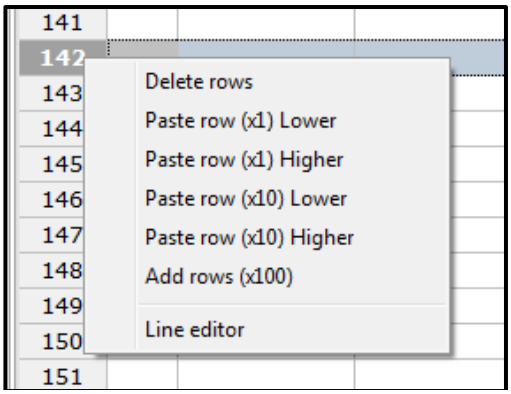


6.1 «REPORT» tab

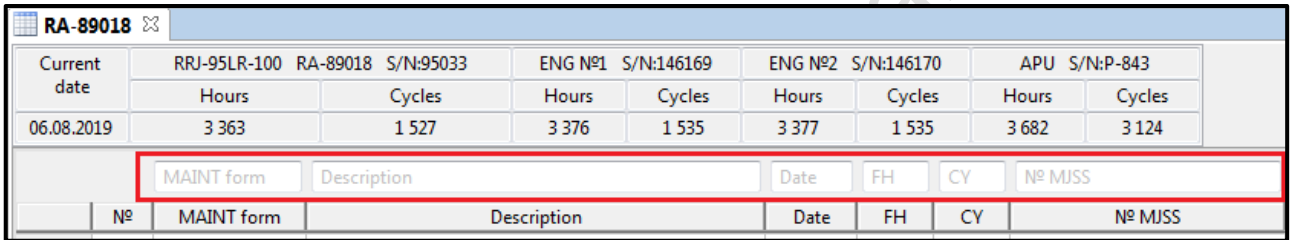
It is a table in which information on the aircraft MAINT work performed is entered. This table consists of columns: №, Form, Description, Date, AC time, AC cycles, № MJSS.



When you right-click the continuous row numbering of the table, a context menu appears with possible actions: Delete row, Insert rows (x10) below/above, Insert rows (x1) below/above, Add rows (x100).



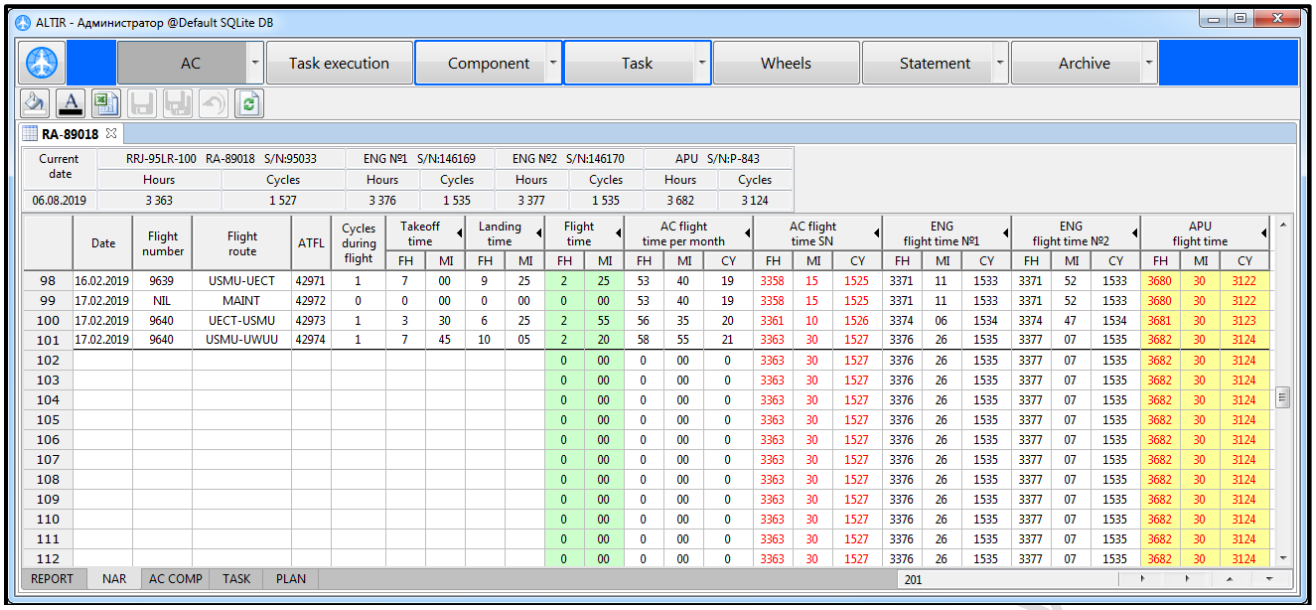
At the top of the table there are fields that allow you to search for the required information in the REPORT table.



6.2 «NAR» tab

It is a table containing data on the flight time of the AC, engines and the APU after each flight.

This table consists of columns: Date, Flight number, Flight direction, ATFL, Number of cycles per flight, Take-off time (h / min), Landing time (h / min), Flight time (h / min), AC flight time per month (hours / min / cycles), Flight time from the beginning of operation (hours / min / cycles), Engines and APUs flight time from the start of operation (hours / min / cycles).



The required number of columns with information about the engines and the APU is generated automatically based on the data entered into the dialog boxes **«Create AC»** and **«Modify AC»**.

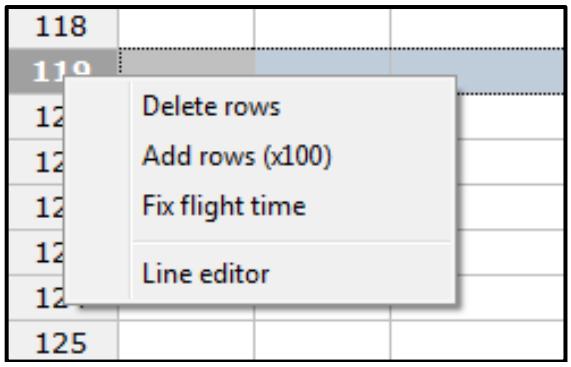
There is a possibility for the user to adjust the flight time of the aircraft, engines and the APU from the beginning of operation in the NAR table. This allows you to record the flight time in the columns of the engines and the APU in the event of their replacement. The manually specified or fixed values of the flight time are painted in a light blue color.

ENG flight time №1			ENG flight time №2			APU flight time		
FH	MI	CY	FH	MI	CY	FH	MI	CY
1000	30	500	1000	30	500	1000	30	500
1300	30	600	1000	30	500	1555	30	700

When you enter the date of the next month in the **«Date»** column, the total accumulation of the aircraft's flight time per month is automatically generated.

	Date	Flight number	Flight route	ATFL	Cycles during flight	Takeoff time		Landing time		Flight time		AC flight time per month		
						FH	MI	FH	MI	FH	MI	FH	MI	CY
107	02.01.2017				0	0	00	0	00	0	00	0	00	0
108	03.01.2017				0	0	00	0	00	0	00	0	00	0
109	04.01.2017				0	0	00	0	00	0	00	0	00	0
110	05.01.2017				1	0	00	4	30	4	30	4	30	1
111	05.01.2017				1	0	20	4	30	4	10	8	40	2
112	01.02.2017				0	0	00	0	00	0	00	0	00	0
113	04.02.2017				0	0	00	0	00	0	00	0	00	0
114	05.02.2017				1	0	20	5	30	5	10	5	10	1
115	06.02.2017				0	0	00	0	00	0	00	5	10	1

When you right-click on the continuous numbering of the table rows, a context menu appears with possible actions: Delete rows, Add rows (x100), Fix flight time.



Note: The **«Fix flight time»** action is applied if it is necessary to delete the rows with the flight time above the line which the fixation was performed for, while saving the information about the total flight time.

If you enter an incorrect date into the **«Date»** column, the date range, within which an inaccurate date is entered is highlighted.

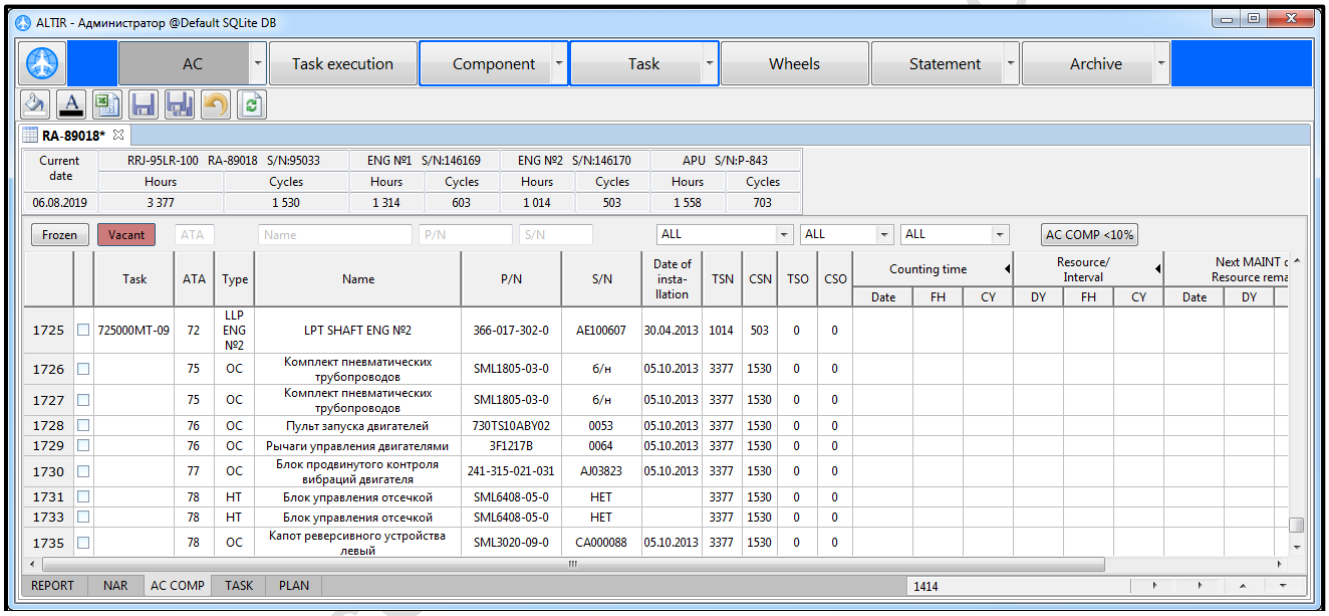
11	10.12.2018	555	UUWW-USMQ
12	15.12.2018	555	UUWW-USMQ
13	16.12.2018	555	UUWW-USMQ
14	17.09.2018	555	UUWW-USMQ
15	18.12.2018	555	UUWW-USMQ
16	19.12.2018	555	UUWW-USMQ

6.3 «AC COMP» tab

The **«AC COMP»** tab is a table of components installed on the AC, containing data about the component (name, ATA, P/N, S/N, type, installation date), its flight time (TSN, CSN, TSO, CSO, etc. e.) and the frequency of the MAINT tasks of these components.

The components are added to the AC COMP tab via the **«Component»** tool menu.

The table consists of columns: Task, ATA, Type, Component Name, P/N and S/N, Aircraft Installation Date, Component flight time on AC in hours / cycles since the start of operation (TSN and CSN) and after the last repair (TSO and CSO), Origin time (date / hours / cycles), Resource / Interval (days / hours / cycles), Remainder (date / days / hours / cycles), Additional information.

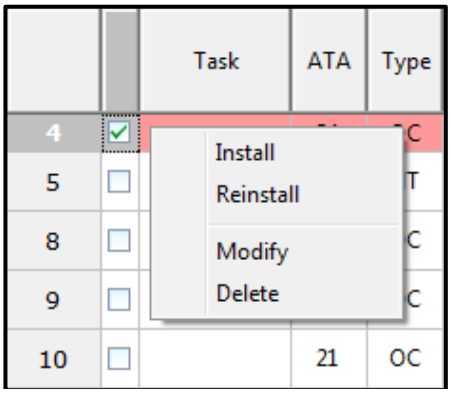


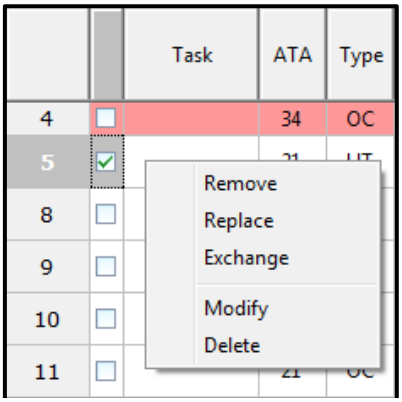
I. «AC COMP» tab functionality

All components are located in the general list formed in chapters (ATA), which are entered when creating or changing a component. Components inside the chapter are arranged by name in alphabetical order.

The checkbox at the beginning of each component line allows you to mark the component for subsequent action application. After checking the box next to the required component and clicking the right mouse button, a menu with actions appears.

For the active component line of menu contains the following actions: Remove, Replace, Exchange, Modify, Delete.





Note: in order to perform a component replacement on an AC with a component installed on another AC, it is necessary first to perform the **«Remove»** action and then the **«Reinstall»** action.

«Remove» action

The **«Remove component»** action is used to remove a component from AC (in order to install another component instead of it after a certain period of time).

When a component is removed, its line is highlighted with a yellow fill and it is «frozen»: all data about the component is saved, and the flight time stops at the moment of removal.

Then, a vacant component line, which is intended for installation of a new component instead of the one removed on the aircraft is generated in the automatic mode. A vacant row is always placed at the beginning of the table AC is colored with red, indicating that the aircraft is incomplete.

Frozen | Vacant | ATA | Name | P/N | S/N | ALL | ALL

		Task	ATA	Type	Name	P/N	S/N	Date of insta-llation	TSN	CSN	TSO	CSO	Counting	
													Date	FH
1	☐		21	OC	Вентилятор вытяжки из переднего отсека авионики	39281A020001	39281-01040							
9	☐		21	OC	Вентилятор вытяжки из переднего отсека авионики	39281A020001	39281-01040	05.10.2013	3363	1527	0	0		
10	☐		21	OC	Вентилятор вытяжки из переднего отсека авионики	39281A020001	39281-01006	05.10.2013	3363	1527	0	0		

To install a component on a vacant place, you must check the box next to the vacant line and select the appropriate action from the menu that appears when you right-click.

For a vacant row menu bar contains the following actions: Install, Reinstall, Modify, Delete.

«Install» action

When selecting the **«Install»** action, a dialog box appears to install the component on the AC. The composition and work of this dialog box is identical to the component creation window through the **«Component»** tool menu.

After you have entered all the required information about the component being installed through the **«Install component»** dialog box and clicked the **«OK»** button:

1) a new component is created,
2) the created component moves under the component line that was replaced by it (i.e., under the yellow line of the removed component, on the place of which there was a vacant place),
3) the vacant place disappears.

«Replace» action

When you select the **«Replace»** action, a dialog box appears to replace the component on the AC. The composition and operation of this dialog box is identical to the component creation window through the **«Component»** tool menu.

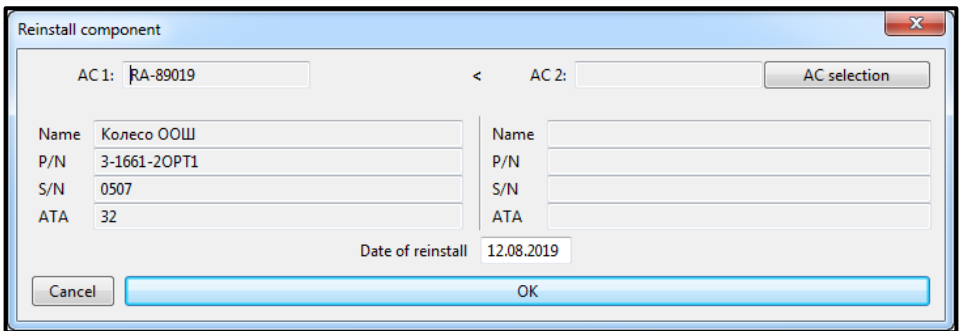
After you have entered all the required information about the component to be installed through the **«Replace component»** dialog box and clicked the **«OK»** button:

1) a new component is created,
2) the created component moves under the component line that was replaced by it,
3) the line of the replaced component is highlighted with a yellow fill and it is «frozen»: all data about the component is saved, and the flight time stops at the moment of replacement.

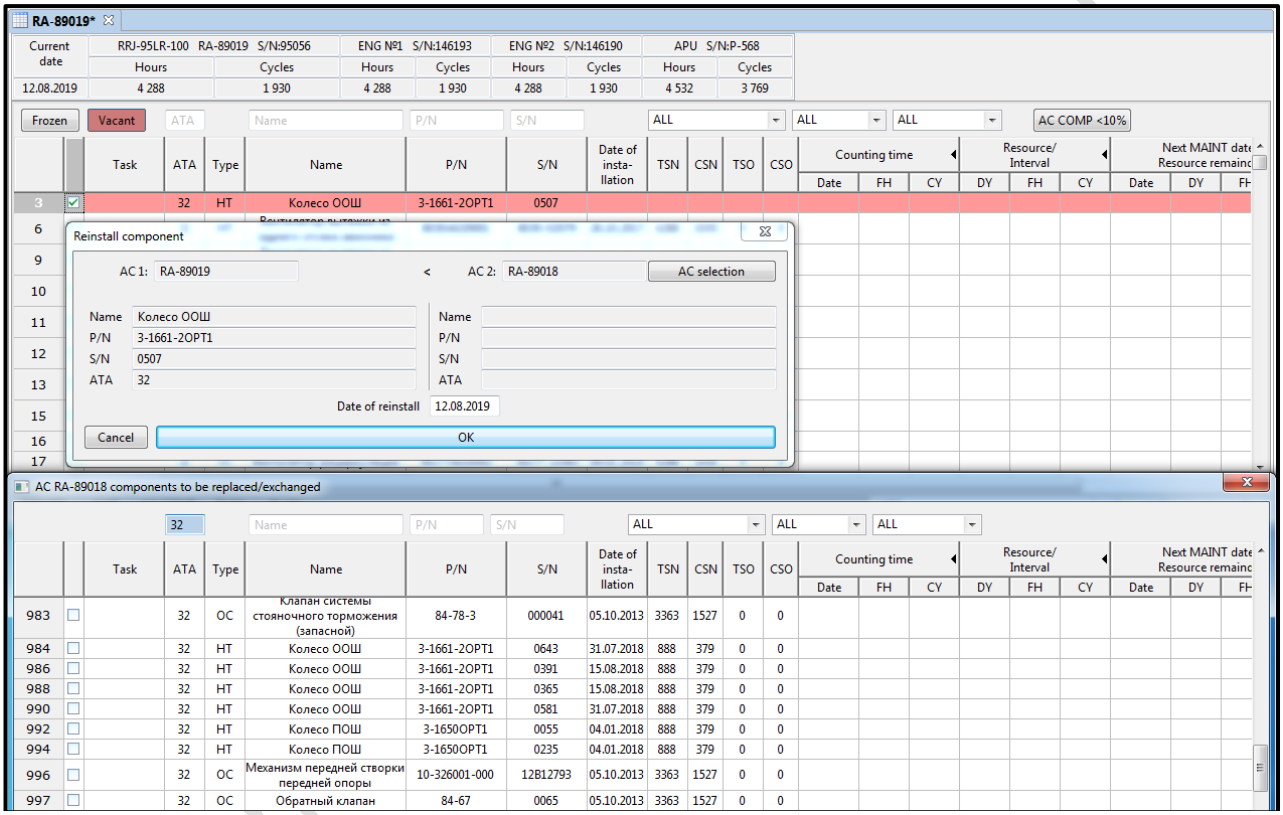
«Reinstall» action

When you select the **«Reinstall»** action, a dialog box appears for moving the component to the AC from another AC.

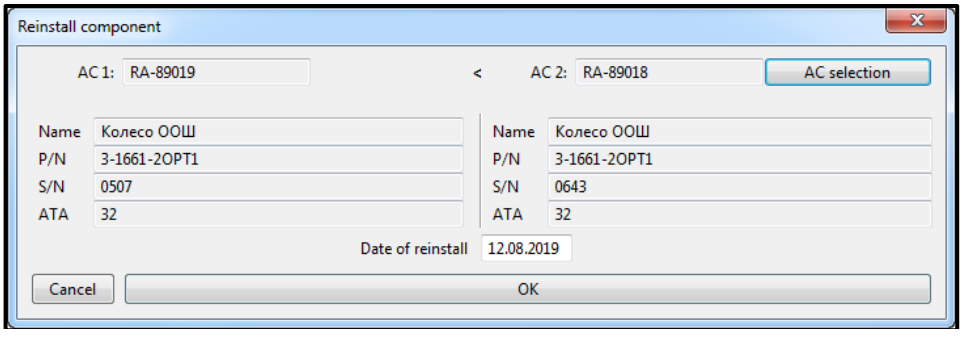
This window is divided into two parts. The left half of the window is automatically filled with the data of the selected component and the registration number of its AC. The right half of the window contains the «Aircraft selection» button, which allows you to select the AC which the component will be moved from.



When you select the aircraft registration number, a window appears with a table of the «**AC COMP**» tab of this AC, filtered by the ATA chapter of the component removed.

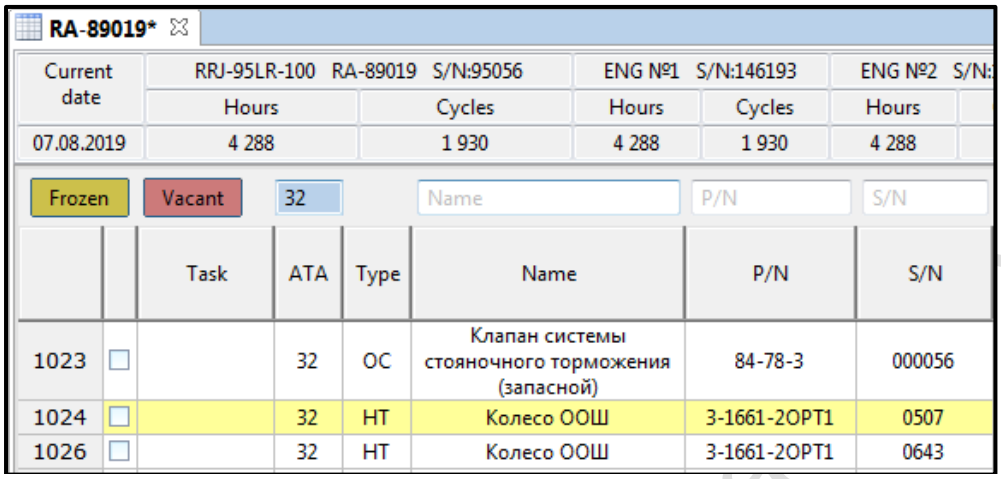


To detect the component to be moved, check the box next to the required component and click the «OK» button at the bottom of the window. After that, the right side of the «**Reinstall component**» window is automatically filled with information about the selected component.



To complete the component swap procedure, you must enter the swap date and click the «OK» button. After clicking the «OK» button:

1) there is a transfer of a component data from one AC to another,
2) the reinstalled component moves under the removed component line.



RA-89019*

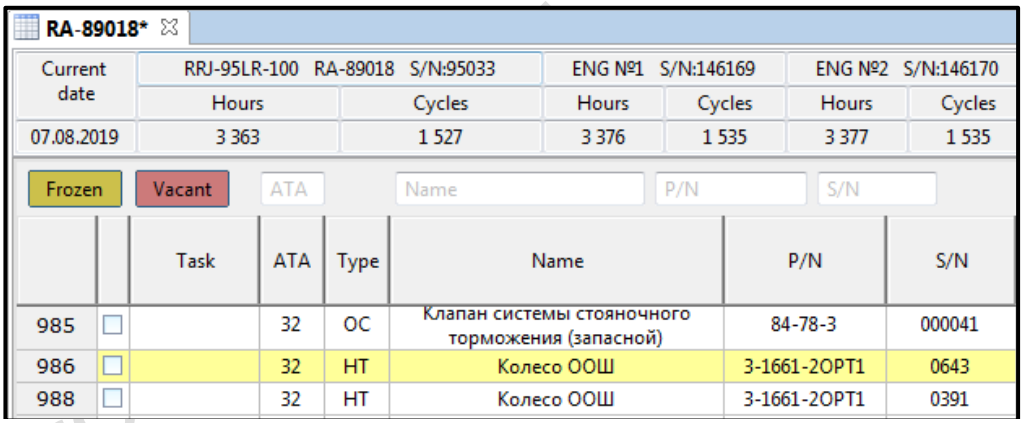
Current date	RRJ-95LR-100 RA-89019 S/N:95056		ENG №1 S/N:146193		ENG №2 S/N:	
	Hours	Cycles	Hours	Cycles	Hours	
07.08.2019	4 288	1 930	4 288	1 930	4 288	

Frozen | Vacant | 32 | Name | P/N | S/N

		Task	ATA	Type	Name	P/N	S/N
1023	☐		32	OC	Клапан системы стояночного торможения (запасной)	84-78-3	000056
1024	☐		32	HT	Колесо ООШ	3-1661-2OPT1	0507
1026	☐		32	HT	Колесо ООШ	3-1661-2OPT1	0643

At the same time, the aircraft from which the component was moved:

3) its line is highlighted with a yellow fill and it is «frozen»: all data about the component is saved, and the flight time stops at the moment of change.
4) the vacant line from the moved component is automatically generated.

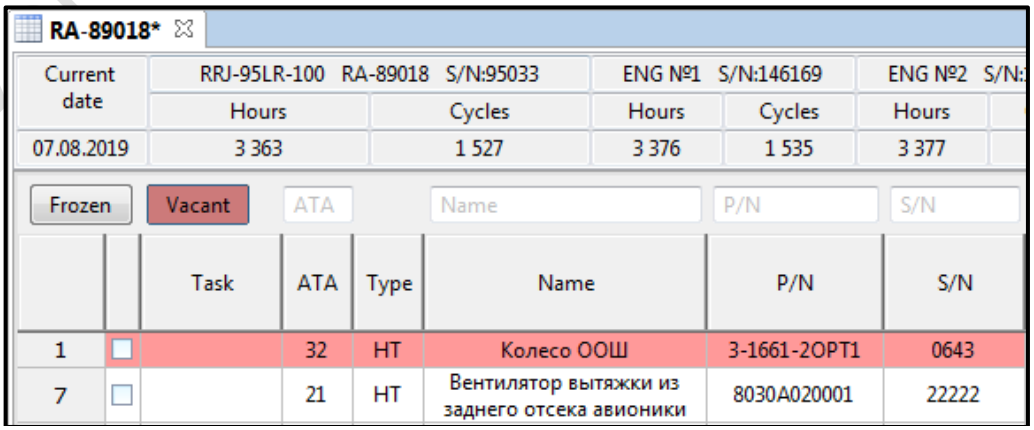


RA-89018*

Current date	RRJ-95LR-100 RA-89018 S/N:95033		ENG №1 S/N:146169		ENG №2 S/N:146170	
	Hours	Cycles	Hours	Cycles	Hours	Cycles
07.08.2019	3 363	1 527	3 376	1 535	3 377	1 535

Frozen | Vacant | ATA | Name | P/N | S/N

		Task	ATA	Type	Name	P/N	S/N
985	☐		32	OC	Клапан системы стояночного торможения (запасной)	84-78-3	000041
986	☐		32	HT	Колесо ООШ	3-1661-2OPT1	0643
988	☐		32	HT	Колесо ООШ	3-1661-2OPT1	0391



RA-89018*

Current date	RRJ-95LR-100 RA-89018 S/N:95033		ENG №1 S/N:146169		ENG №2 S/N:	
	Hours	Cycles	Hours	Cycles	Hours	
07.08.2019	3 363	1 527	3 376	1 535	3 377	

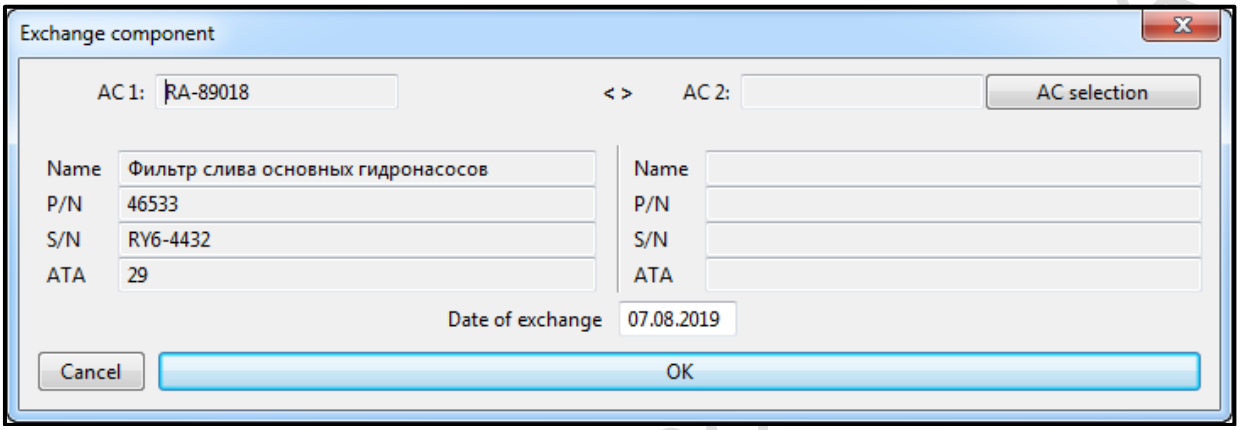
Frozen | Vacant | ATA | Name | P/N | S/N

		Task	ATA	Type	Name	P/N	S/N
1	☐		32	HT	Колесо ООШ	3-1661-2OPT1	0643
7	☐		21	HT	Вентилятор вытяжки из заднего отсека авионики	8030A020001	22222

«Exchange» action

When you select the **«Exchange»** action a dialog box appears for the exchange of components between the two AC.

This window is divided into two parts. The left half of the window is automatically filled with the data of the selected component and the registration number of its AC. The right half of the window contains the «AC selection» button, which allows you to select the aircraft with which the components will be exchanged.



When choosing the aircraft registration number, a window with a table from the «AC COMP» tab of this aircraft appears with filtering of the ATA chapter of the first component to be changed.

To determine the second of the components to be distributed, check the box next to the required component and click the OK button at the bottom of the window, after which the right side of the **«Exchange components»** window is automatically filled with information about the selected component.

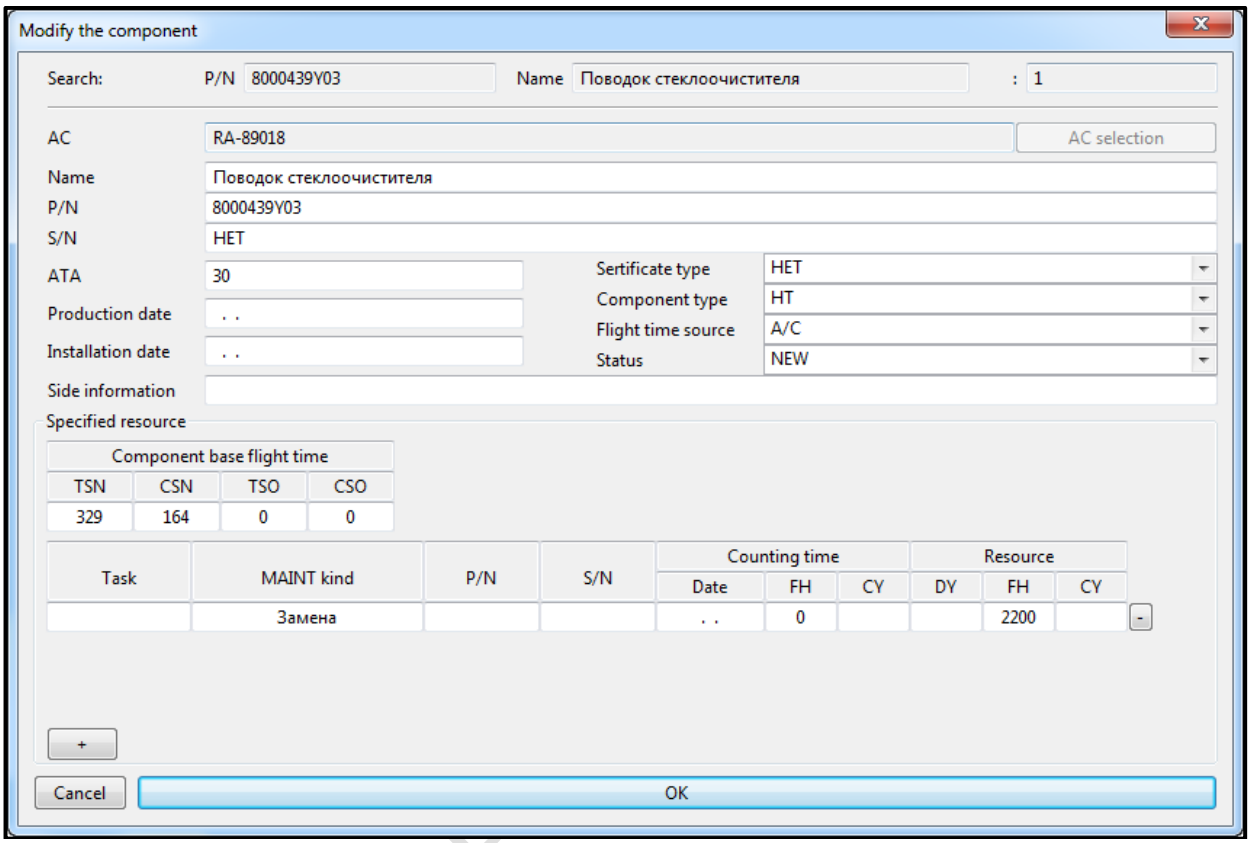
To complete the component exchange procedure, you must enter the date of exchange and click the «OK» button. After clicking the «OK» button:

1) there is an exchanging of components between the AC,
2) on both AC, the rows of exchanged components are highlighted with a yellow fill and they are «frozen»: all data on the components is saved, and the flight time stops at the time of the exchange,
3) exchanged components are placed under the removed components.

«Modify» action

The **«Modify»** action is used to modify the component data.

When you select this action, the **«Modify component»** dialog box appears. The composition and operation of this dialog box is identical to the component modify window through the «Component» tool menu.

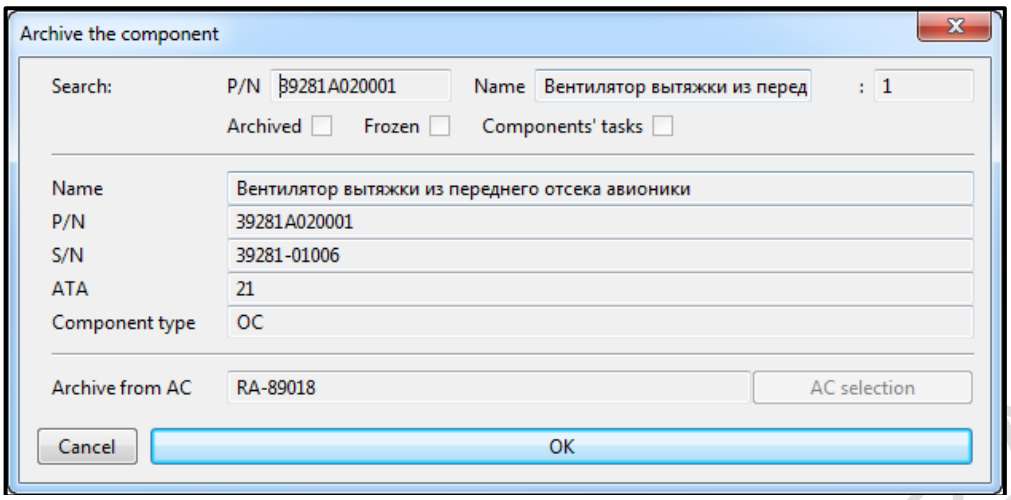


Note: it is recommended to modify the flight time from the beginning of operation and after the last repair of a component through the **«Modify component»** dialog box of the AC COMP tab.

«Delete» action

The **«Delete»** action is intended to delete the requested component from the AC COMP tab.

When you select this action, the **«Delete component»** window appears. The composition and operation of this dialog box is identical to the component removal window through the «Component» tool menu.



After clicking the «OK» button in the window, the application will offer to move the component to the archive or delete it from the application without the possibility of further restore.

If you confirm the transfer of the component to the archive, the application will offer to move the component along with the history of the removed components.

II. «AC COMP» tab filters

The AC COMP tab has the **«AC COMP <10%»** button, when clicked, the cells in the **«Resource remainder»** column for which residues in flight hours, cycles, days are equal to or less than 10% are highlighted with the red color.

The **«Removed»** button allows you to display the removed components for the entire period of AC operation time.

The **«Vacant»** button allows you to display incomplete AC positions.

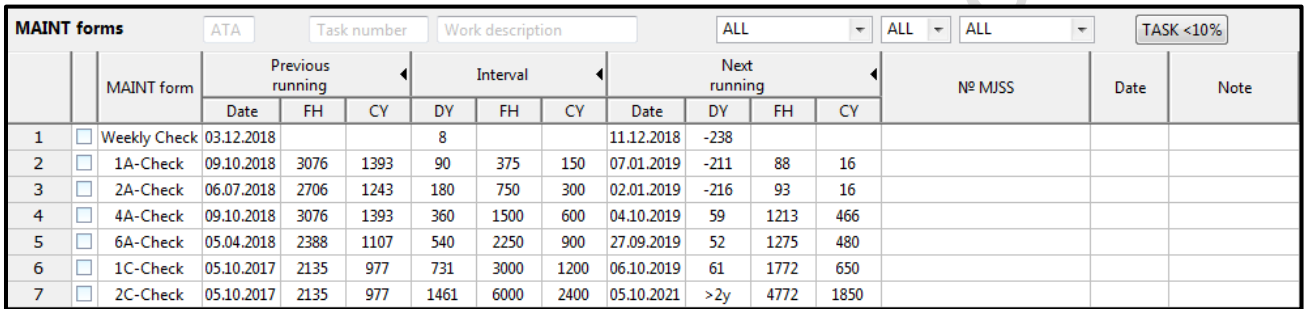
6.4 «TASK» tab

The **«TASK»** tab contains two tables with information about all periodic, one-time jobs and Forms that are mandatory for the AC.

I. «Forms» table

The **«Forms»** table is intended to take the performance of the Forms on the aircraft into account. Forms in this table are placed in increasing execution intervals order. Entering of forms into the table is done through the **«Task»** tool menu.

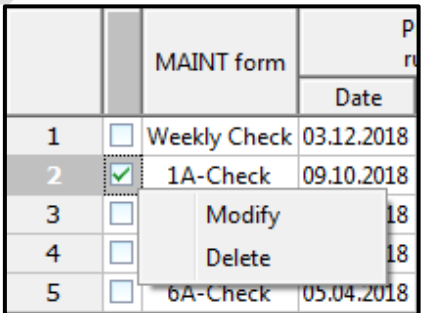
The table consists of the following columns: Forms, Previous execution (date, flight hours, cycles), Interval (days, flight hours, cycles), Next execution (date, days, flight hours, cycles), № MJSS, Date, Note.



MAINT forms | ATA | Task number | Work description | ALL | ALL | ALL | TASK <10%

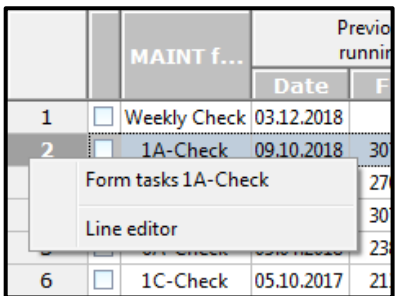
		MAINT form	Previous running			Interval			Next running				№ MJSS	Date	Note
			Date	FH	CY	DY	FH	CY	Date	DY	FH	CY			
1	☐	Weekly Check	03.12.2018			8			11.12.2018	-238					
2	☐	1A-Check	09.10.2018	3076	1393	90	375	150	07.01.2019	-211	88	16			
3	☐	2A-Check	06.07.2018	2706	1243	180	750	300	02.01.2019	-216	93	16			
4	☐	4A-Check	09.10.2018	3076	1393	360	1500	600	04.10.2019	59	1213	466			
5	☐	6A-Check	05.04.2018	2388	1107	540	2250	900	27.09.2019	52	1275	480			
6	☐	1C-Check	05.10.2017	2135	977	731	3000	1200	06.10.2019	61	1772	650			
7	☐	2C-Check	05.10.2017	2135	977	1461	6000	2400	05.10.2021	>2y	4772	1850			

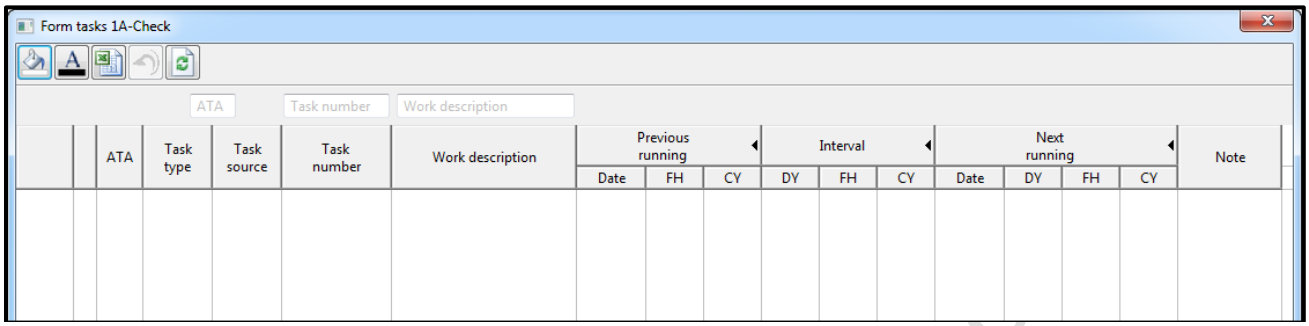
The checkbox at the beginning of the line of each form allows you to mark a form for subsequent action application. After checking the box next to the desired form and clicking the right mouse button, a list appears with actions Modify and Delete.



«Forms» table functionality

When you right-click the continuous numbering table rows, a menu appears with the item of calling the table of tasks included in the Form.





The composition of the Form task table columns and the list of actions with tasks are identical to the **«One-time and periodic works»** table of the «TASK» AC tab, with some differences:

- In the **«Task type»** column, the name of the Form, which includes this task, is displayed.
- The data in the **«Previous execution»** and **«Interval»** columns of the Form task coincide with the data of the corresponding Form and are set automatically.

Inserting of the MAINT tasks into Form task table is carried out through the **«Task»** tool menu or via the **«Modify»** action for the marked task in the **«One-time and periodic works»** table of the «TASK» AC tab.

II. «One-time and periodic works» table

The **«One-time and periodic works»** table is intended to record the performance of one-time and periodic maintenance tasks on the AC. Tasks in this table are placed in ascending order of the ATA chapter number. Inside the chapter, tasks are arranged in alphabetical order by number. Entering tasks into the table is carried out through the **«Task»** tool menu.

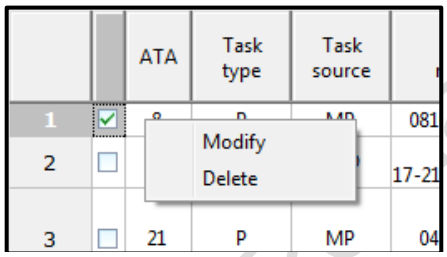
The one-time and periodic works table consists of the following columns: ATA, Task type, Task source, Task number, Job description, Previous execution (date, flight hours, cycles), Interval (days, flight hours, cycles), Next execution (date, days, flight hours, cycles), № MJSS, Date, Note.

One-time and periodic works

		ATA	Task type	Task source	Task number	Work description	Previous running			Interval			Next running				№ MJSS	Date	Note
							Date	FH	CY	DY	FH	CY	Date	DY	FH	CY			
1	☐	8	P	MP	081000MT-01	Измерить массу самолета	15.10.2015			1460			14.10.2019	69					
2	☐	17	P	ADD	ПВ 17-21-30-210-804	Осмотр системы нейтрального газа	09.10.2018			90			07.01.2019	-211					
3	☐	21	P	MP	043000-017	Проверка взаимодействия между блоками КСКВ и системой центрального вычислителя		2937			750				324				
4	☐	21	P	MP	043000-018	Контроль исправности вытяжного вентилятора среднего приборного отсека		0			7500				4137				
5	☐	21	P	MP	212100MT-02	Списание фильтроэлемента фильтра рециркуляции		1891			3000				1528				

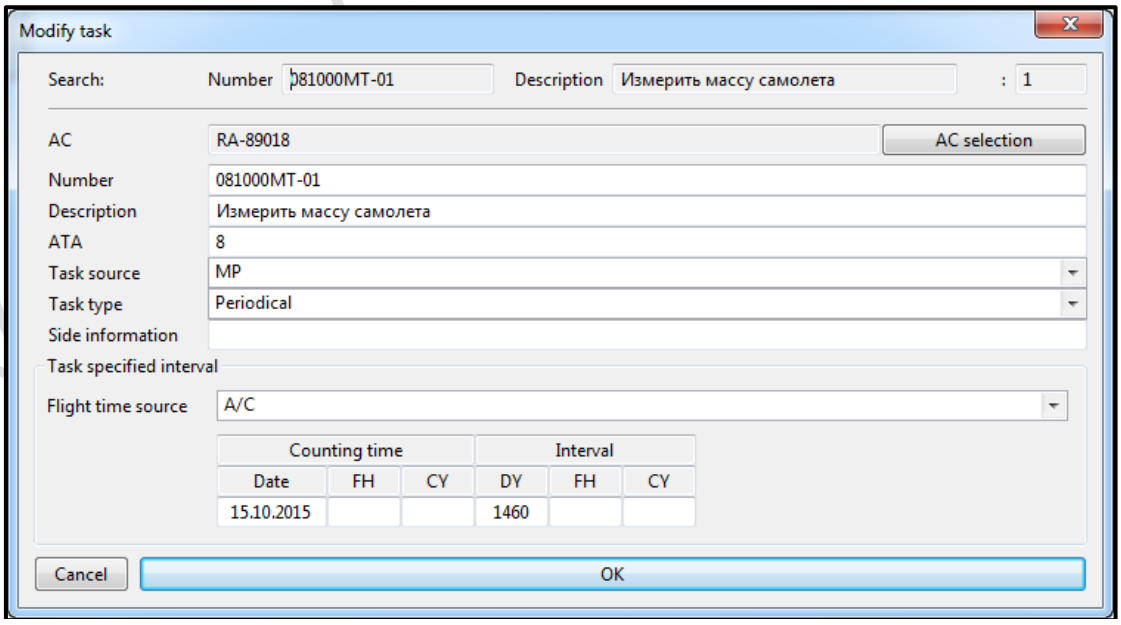
«One-time and periodic work» table functionality

The box for checking a checkbox at the beginning of the line of each MAINT task allows you to mark a task for the subsequent action application. After checking the checkbox next to the required task and clicking the right mouse button, a list appears with actions the Modify and Delete.



«Modify» action

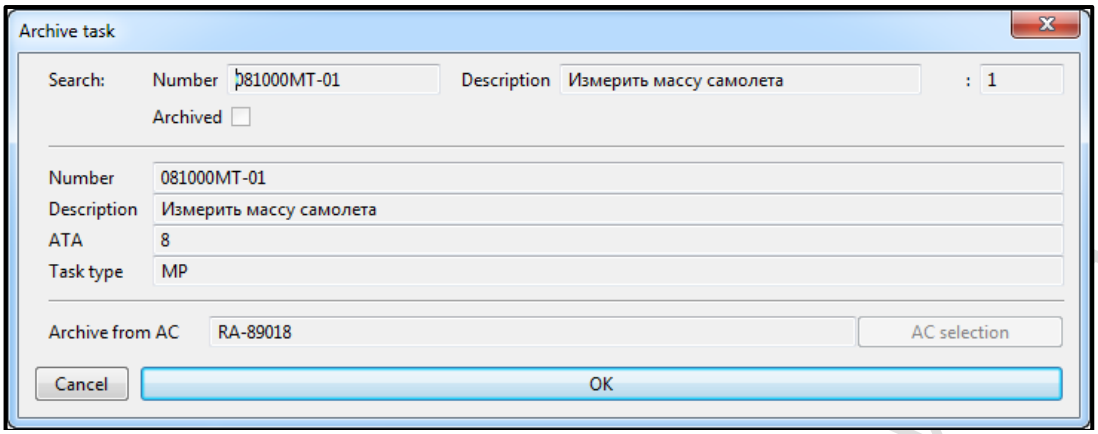
When you select the **«Modify»** action, the **«Modify task»** dialog box appears, which is intended to make changes to the task data.



You can modify the task data in the table itself.

«Delete» action

When you select the **«Delete»** action, the **«Delete task»** dialog box appears.



The contents of these dialog boxes and work with them are identical to the dialog boxes for changing and deleting tasks called from the **«Task»** tool menu with the difference that in this case all actions are performed with only one marked task.

III. AC «TASK» tab filters

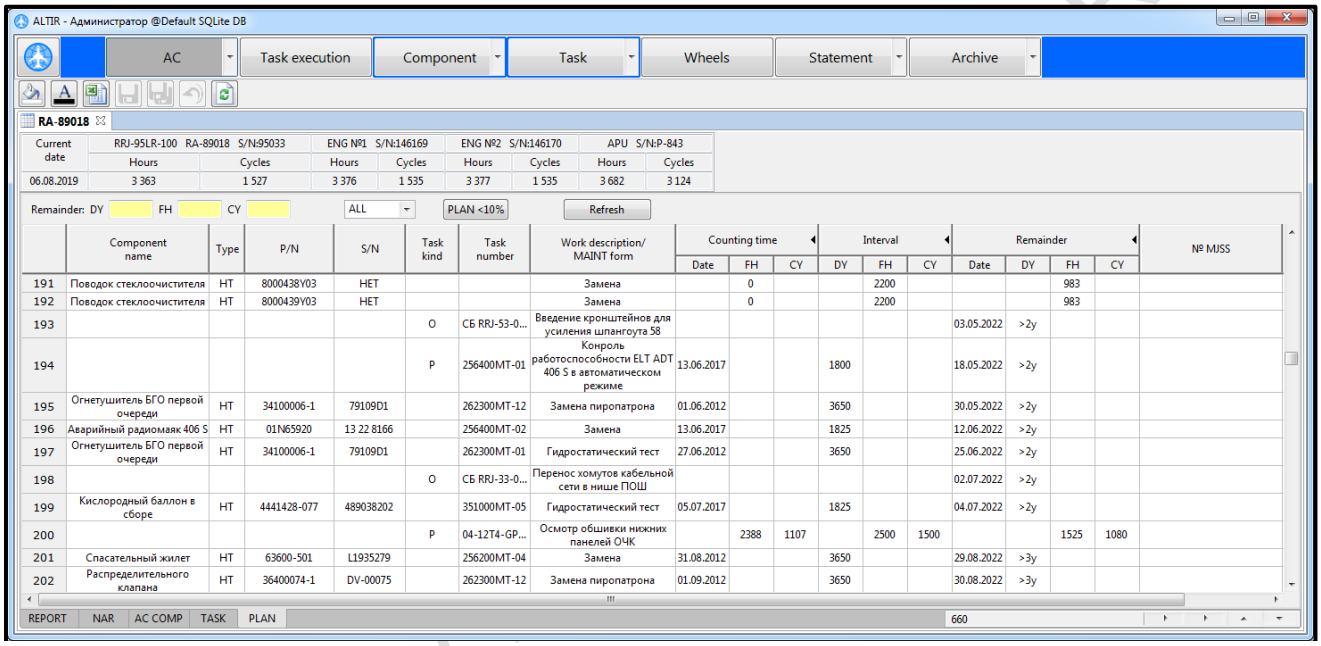
The **«TASK»** tab contains filters that allow you to find a MAINT task or a group of tasks in a table. This tab contains the following set of filters: ATA, Task Number, Task Description, Task Type, Task Source, Flight time Source.

The TASK tab has a **«TASK <10%»** button, when clicked, the cells in the **«Next running»** column for which residues in flight hours, cycles, days are equal to or less than 10% are highlighted with the red color.

6.5 «PLAN» tab

The **«PLAN»** tab is used to display information about all the MAINT tasks, components, Forms that are recorded on the AC, and serves to schedule MAINT tasks on the aircraft for a period selected by the user, calculated in flight hours, cycles, days.

The tab table consists of the following columns: Component Name, Type, P/N, S/N, Task Type, Task Number, Job Description / Form, Reference (Date, Flight Hours, Cycles), Resource / Interval (Days, Flight hours, cycles), Reminder (date, days, flight hours, cycles), Note.



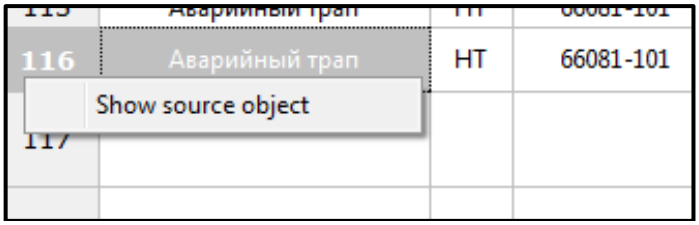
«PLAN» tab table functionality

Tasks, components, forms are arranged in the PLAN tab table in ascending order of residues in flight hours, cycles, days before they are completed (in the case of tasks or Forms) or resources residues (in the case of components). Those the closer the value in any of the columns (DY, FH, FC) in the **«Remainder»** column to zero, the higher the row will be placed.

In order to update the list of the next works after adding the flight time in the NAR tab, you must click on the **«Refresh»** button. When this happens, the rows are reordered according to the rule described above, taking into account the values of the added work.

When you right-click the continuous numbering table rows, a single row selects and a menu with the **«Show source object»** action appears. Calling this action leads to an automatic switching to the AC tab corresponding to the

highlighted row (AC COMP for the component row, TASK for the task or form row), and highlighting the row of the same name in the tab table.

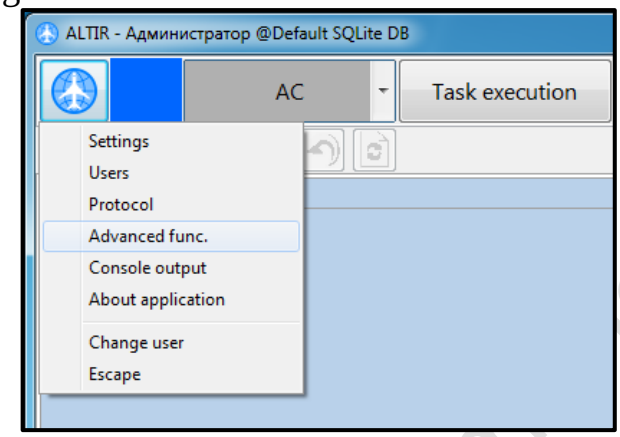


The PLAN tab has the **«PLAN <10%»** button, when clicked, the cells in the **«Remainder»** column for which residues in flight hours, cycles, days before they are completed, is equal to or less than 10% are highlighted with the red color.

7. Main menu

Main menu items open windows that allow you to: 1) configure tables view, configure whole the application for different types of aircraft (item «Settings»), 2) manage user accounts (item «Users»), 3) view the protocol of user actions of creating, modifying and deleting of aircraft data (item «Protocol»).

Main menu items «Users» and «Protocol» are available only for accounts with administrator rights.



7.1 Application settings

Settings window is called from the main menu of the application.
Settings are divided into two groups:
1) «Common» – define functionality of the application;
2) «Table style» – define appearance of tables in workspace.

Common settings:

Setting name	Default value	Remark
Interface language	matches OS language	Missed localization file for default language or selected language will cause for English localization apply (only English and Russian localizations are available in this version).
Database synchronization interval	10 sec.	Interval to accesses the database to load occurred changes.
Visible AC types		List of aircraft types in form of strings separated by commas. Data of aircrafts of those types reads from database during synchronization, and, accordingly, are visible in the application. Works when filtering by aircraft type is enabled.
Allow AC filtering by type	yes	Enables or disables filtering by aircraft type. Enabled filtering and empty type list will cause all aircraft to load.
Allow rollback functionality and change history (protocol)	no	Enables or disables functionality of data changes rollback (for tables only).

Allow database backup during application startup	no	Enables or disables database backup functionality (for SQLite only).
Allow cleaning of old protocol records	no	Enables or disables functionality of deleting of protocol records. Request sends during synchronization with database.
Age of protocol records to clean	365 days	

To change the setting, enter the corresponding value in the cell of «Custom value» column.
Changing of common settings is available only for users with «Administrator» role. Application restart required to apply common settings.

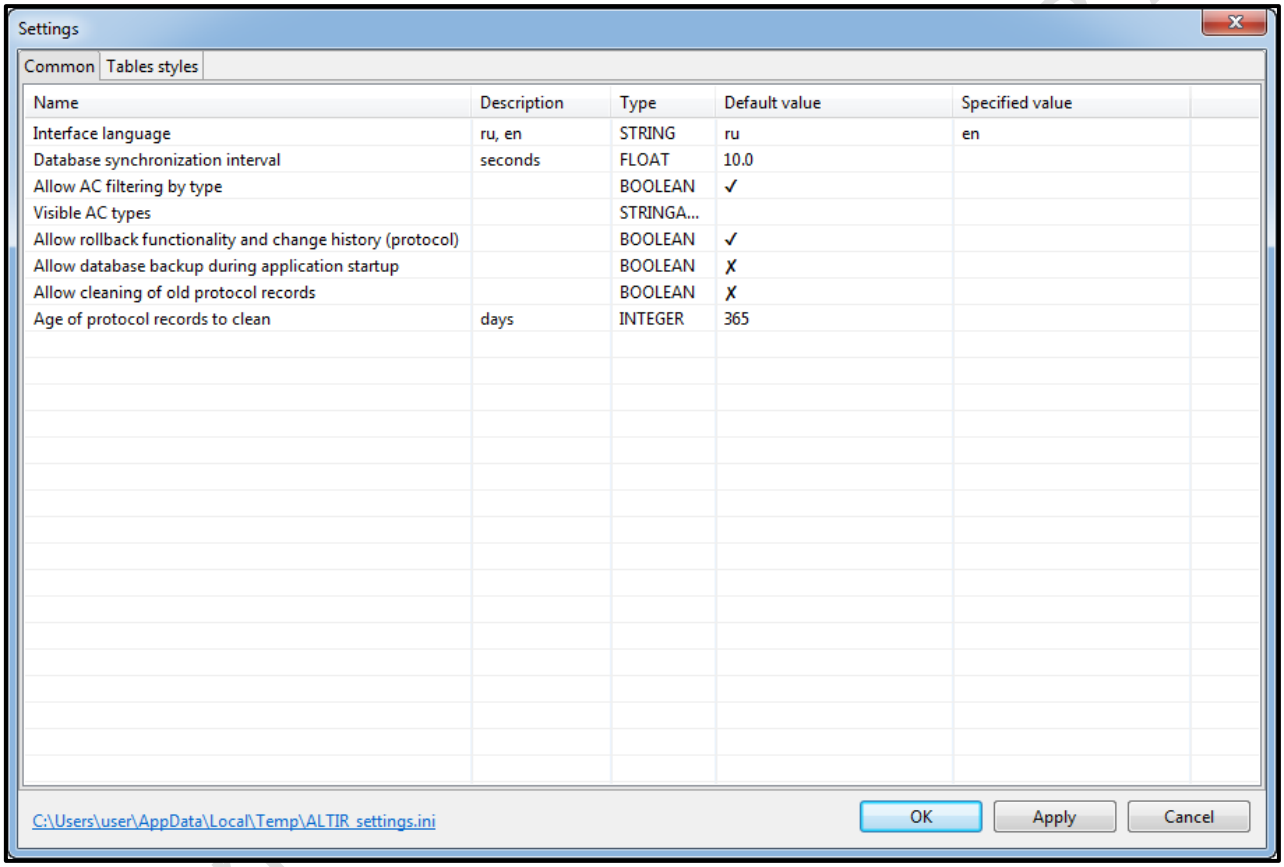


Table style settings include settings of all tables:

- row height,
- title height,
- background color,
- title background color,
- title text color

as well as settings of background color, text color and width for each column of tables in AC tabs.

Application restart not required to apply table style settings.