



Operation Manual of Qdoc Program (ver.2.9)

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1. Introduction

Qdoc is an application designed by engineers of the quality companies operating in the Automotive industry, created in response to the growing demand for management software of the quality documentation. Qdoc application allows in a simple way to create integrated quality documents: Process Diagram, PFMEA and Control Plan and to manage them in a controlled way. The integrity of mentioned documents is an important factor that guarantees the correct supervision of production and risks processes, which can create these processes. Management of such aspects with Qdoc application is very simple, and in addition constitutes a kind of “error proofing” for common errors when you create or update a similar documentation. Transparency of key documents that are created by Qdoc and management efficiency can also be a valuable image of the Quality System of each Company. This advantage is especially useful during audits of Customers, evaluating preparation to implementation of new Projects or certification audits, which very often seek out inconsistencies in consistency of quality and process documentation.

2. Creating the New Project

In **Qdoc** program each Project means the three consistent with each other automatically generated documents: Process Flow Diagram, FMEA and Control Plan. This package of documents will head farther with a single revision, growing with next updates, which facilitates an efficient supervision of listed documents. When you run the Qdoc program, automatically an empty template of the Project is loaded, so you can immediately begin to create the package of documentation. New empty template can also be uploaded by clicking on the icon “create the new project” in main menu of the program.

Creating the new project should start with filling the form “Basic Information”. There are key data that automatically fulfil the diagram headers of Process Diagram, FMEA and Control Plan. The field of Project number and revision is filled at the time of saving the Project (this cannot be done from the level of discussed tab). Also fields “*Approval Team*” are filled in a separate process of defining the approval team project. Administrator of the program performs this activity from the level of “*Program settings*”.

Qdoc program has built-in module of documents supervision of each Project. An important part of the form “Basic Information” is area “*Approval Team*”. Defining the team for each Project should be made by the Administrator of Qdoc program. These can be made in the panel of “*Program settings*” (detailed description of this part of application is shown in point 8).

The New Project has a default approval status marked as “NOT APPROVED” shown at the top of each document. By using the button “*Approve Documents*”, the user assigned to the Team is able to approve a given project after the review of each document. The status “APPROVED” is only granted when all persons from the Team approve a given Project. Approval is an irreversible process from the normal level of user. The project with status “APPROVED” cannot be modified.

3. Creating the Process Flow Diagram

Note! The correct Process Flow Diagram must include with its scope, in addition to operations associated with production of the product, also the processes of accepting material, its control, storage, to shipping the products to the Customer.

Since creation of the Process Flow Diagram has an automatic effect on the creation of Control Plan and FMEA, you must remember to fill the table "*Process parameter or product feature*" before adding the  operation with button "*Add the new operation*". This will enable to actually create relevant entries in mentioned documents.

Basic information

- a. In the field "*Operation Number*" enter the correct number, increasing it further when you add to the Diagram of subsequent processes. In order to be able later easily to enter another processes between operations previously created, you should keep spacing between the numbers using e.g. 10, 15, 20, 25. In particular, this applies to the first editions of the Process Diagram. Remember that the following processes cannot have the previously used number,
- b. Enter the name of operation and choose the type of operation from the list depending on its type,
- c. Define the process functions for each operation, if you want them to be visible in FMEA document (optional field)
- d. Fill other fields: "responsible" for the process, "device name" and cycle time of the given operation. If you have a device or workstation images, you can add them by clicking on the frame next to the "*Process parameter or product feature*" table. Deleting the image is followed by the clicking with right mouse button on the field with image,
- e. Set the value for indicators PPM or FPY (it will be used in generating process defectiveness reports).

Parameters of the process/product

- f. In the column "*Process parameter or product feature*" you must define all key process parameters affecting the quality of produced product in the given operation. The parameter can be the machine settings (e.g. temperature, position of the head, etc.) or product feature produced or modified by the process (e.g. length, surface roughness, etc.)
- g. In case where described parameter of the process/product is a special characteristic of the Customer (S.C.) check the field "*If S.C.*". Qdoc program based on this information will attach the given parameter to the table of special characteristics, as well as in the right way will indicate lines of the Control Plan and FMEA documents. In the field "*S.C. Number*" assign the unique number of edited special characteristic, filling also its class if it was specified,
- h. In the column "*Parameter/Feature*" you must determine whether the given parameter is associated with the process settings or it is a feature of the product. Correct setting of this value will enable to separate edited parameter in the Control Plan document and to categorize it to corresponding column in FMEA document,
- i. Describe what specification was defined for the given parameter, providing also the unit e.g.: 120-230 (mm) or 10.2 +/- 0.1 (kg). This entry will be automatically included in the appropriate column of Control Plan,

Notes/Changes in the process

To each operation of Process Diagram, you can add any change of the process, engineer comments, dates of equipment failures and repairs, or other information associated with the particular process or device. Keeping process change records allows better to supervise engineering activities, as well as more efficiently to conduct analyses in case of quality problems.

Note: You can add notes only to already saved Projects, which have their number, and thus assigned catalogue to data.

Table of the Process Diagram

Table of the Process Diagram is created by adding next operations with button : 

Before adding to the Diagram an edited operation, make sure that you have filled all the key fields.

After adding to the Process Diagram an operation, save documents by clicking on the icon *“Save Project”* in main menu of the program.



Note: You cannot save the project, when no process operation was added to the Process Diagram.

Access to extended functions

Extended functions are available after pressing the button *“More Functions”* in main menu of the

card *“Process Flow Diagram”* 

Attachments – to each operation of the process it is possible to attach a number of documents, such as operational manuals, reports or Quality Alerts. Navigation between individual operations is carried out using arrow keys. This functionality can be used for implementation of electronic documentation on positions equipped with the computer and monitor (it allows for example to replace the traditional operational instructions to electronic, shown by Qdoc program)

Control List – in this tab is possible to display all control from the Control Plan for the given process operation. This option can be used to indicate employees specific control operations, which shall be conducted in the given process. This module is often used by companies presenting *electronically* to their production floor staff all process operation requirements (like controls which should be performed at particular process according to a Control Plan)

Defectiveness – this module is used to enter the data about failures on the product detected on process inspections. Data are entered for each day separately. The information shall be presented on the graph with a possibility to view numerical data or percentage (Pareto graph). For each process operation also a daily result of FPY or PPM is displayed. The condition is here to provide at least in one record for whole day, the quantities of controlled products. This value should be consistent with the appropriate number of products controlled on the given day (it is also possible to split the quantity after the shifts of given production). In case of no failures on the given day for the given operation, select from the list *“no failures”*. In the field *“quantity of defects”* enter „0“. After giving to the correct number of controlled products, you must add data to the table.

In order to extend the input panel to additional fields of *“shift”*, *“comment”*, *“repaired”*, you must set the appropriate status in *“Program settings”* in *“General”* Tab.

4. Edition of the Process Flow Diagram

- a. If you need to change the operation number, its name or other parameter that describes the process, enter data of this operation to the Process Diagram, which you want to edit. For that purpose, you must click on the appropriate operation on the tree of Process Flow Diagram in the left top window,
- b. Edit previously filled fields of the given operation,
- c. Press the button *“Change data for the current operation”* in order to implement changes to the Diagram,



- d. Important. Remember to save the Project after providing changes in the process operation, for that purpose press *“Save Project”* in main menu of the program,



Note: After adding the new parameters to the table *“Process parameter or product feature”* and pressing the button *“Change data for the current operation”*, Qdoc program will automatically add new lines for every new parameter to CP and FMEA documents. This update applies only to adding the new parameter to the table. After deleting the parameter from the table, the program won't delete lines from CP and FMEA documents. Remember to make the appropriate update of mentioned documents by yourself.

5. Entering the new operation to the Process Flow Diagram

- a. In order to enter the new operation to the Process Diagram between already existing operations, you must click on the appropriate operation on the tree of Process Flow Diagram in the left top window, **above which** you want to enter the new operation,
- b. Press the button *“Insert operation above selected”*



- c. Fill the fields *“New operation number”*, *“Operation name”*, *“Operation type”*. After this activity, press the button *“Insert”*,
- d. After entering the new operation, you can modify its parameters as described in point 4. *“Edition of the Process Flow Diagram”*
- e. Remember to save the Project after providing changes in the process operation, for that purpose press *“Save Project”* in main menu of the program.



6. Principles of automatic creation of FMEA and Control Plan rows.

Qdoc program enables to automatically assign rows to FMEA and Control Plan documents when you add to the Process Diagram of new operation. In order to use this automation, the field *“Suggest entries in Control Plan and FMEA when the new operation is add”* must be selected in the panel of *“Program settings”*. The number of rows added to mentioned documents is dependent on the number of process parameters or product features entered to **the Table** in the sheet *“Process Flow Diagram”*. Automatic process of adding lines can be carried out only when the mentioned Table has filled fields. In case no process parameters or product features were added to the table, only one row will be added to a Control Plan and FMEA. Allocation of entries when table was filled looks as below.

a. Table contains *process parameter*, which is a special characteristic

Impact on FMEA

An entry #*parameter name*# is added to FMEA document in the column "*Potential causes*" of defect, as well as predefined previously word/phrase placed in the field "*When it's process parameter add to FMEA*". For example, when the process parameter is Temperature and predefined word is "*Incorrect*", the entry in the column "*Potential causes*" of defect will look as follows: "*Incorrect Temperature*". Since the process parameter was indicated as S.C, the column "*Classification*" is also filled out, where the number of S.C is combined with its level.

Note: Use of predefined words can in most cases precipitate the process of filling the fields of documents, however may cause grammatical conflicts!

Impact on Control Plan

In Control Plan document, the fields "*Process*", "*Special Characteristics*" and "*Product, Process Specification Tolerance*" are filled up. If in "*Program settings*" in the field "*When it's parameter or feature add to CP*" is a predefined entry, it will be added before the name of parameter in the column "*Process*"

b. Table contains *product feature*, which is a special characteristic

Impact on FMEA

An entry #*name of product feature*# is added to FMEA document in the column "*Potential failure mode*", as well as predefined previously word/phrase placed in the field "*When it's product feature add to FMEA*"

Impact on Control Plan

In Control Plan document, the fields "*Product*", "*Special Characteristics*" and "*Product, Process Specification Tolerance*" are filled up. If in "*Program settings*" in the field "*When it's parameter or feature add to CP*" is a predefined entry, it will be added before the name of feature in the column "*Product*"

Note: The tool of automatic filling the lines of FMEA and Control Plan is only to suggest the user to what aspects of process/product should pay attention. Further description and modification of such entries should already be conducted by the Interdisciplinary Team creating the documentation. Modified in FMEA and Control Plan documents or deleted names of process parameters/product features aren't automatically updated in the "*Process parameter or product feature*" table in the Process Diagram panel. The user's responsibility is to provide here the consistency and proper order.

7. FMEA and Control Plan edition

Adding or removing rows from FMEA and Control Plan documents is intuitively simple, by using buttons "*Insert row below selected*" and "*Delete row*". The only limitation that has been implemented here is the fact that from mentioned documents it isn't possible to delete the process operation, or to modify the fields "*Operation Number*", "*Operation Name*" and in case of FMEA "*Process/Requirements Function*". That important information can be changed only from the level "*Process Flow Diagram*" using the button "*Change data for the current operation*". If you want to add the record in other language, after w entering text in the cell, you must press Shift+Enter and put the translated text e.g. in brackets.

Lists of entries

A helpful tool, which facilitate editorial are *"Lists of entries"* i.e. entries saved in support tables from columns marked with an asterisk or specified below fields:

- Process Diagram – Operation Name,
- Process Diagram – Device Name,
- Process Diagram – Process/Requirements Function,
- FMEA, Potential effect of defect,
- FMEA, Potential cause of defect,
- FMEA, Current process control (Prevention),
- FMEA, Current process control (Detection),
- Control Plan, Evaluation or Measurement Technique,
- Control Plan, Control Method,
- Control Plan, Frequency,
- Control Plan, Documentation,
- Control Plan, Respond Plan.

Adding entries from the level of Process Diagram form is held automatically after selection of the option *"Add entries from Process Diagram automatically"* in *"Program settings"* tab. Access to the list of entries after pressing the right mouse button on the field marked asterisk.

Adding entries from the level of FMEA and Control Plan is conducted by the user, who decides what standard record should be on the list. For that purpose, you must select the cell with the given text, which you want to add to the list, and by clicking with right mouse button select *"Add to list of entries"*. Hiding the list by clicking the button *"Hide"* on the top beam of the program. Management of created lists can be made from the level of *"Program settings"* (see point 8)

8. Program settings

Configuration of **Qdoc** is carried out by clicking on the icon *"Program settings"*

"General" Tab

- *Show TOP RPN/Severity for number of rows* – this field is used to define the number of lines displayed while generating tables TOP RPN/Severity. Changing the value of this field by double-clicking on entered currently number, and then you must change the selected number on appropriate,

- *Default height of FMEA and CP rows* – in this field you specify the row heights in a scope of 80-200 for both documents,

- *Height of FMEA and CP rows AutoFit* – allows you to adjust the text length in the cell to its size,

- *During export to Excel use colors* – by exporting documents to the program you can enable the Excel option of coloring columns and lines. Note, this method slightly slows down the process of exporting the contents of bigger documents,

- *Highlight a cell in FMEA when RPN is over* – in this field you can establish the threshold value of RPN indicator above which the column cell of RPN will be highlighted in red,

- *Hide functions and requirements column in FMEA* – option of hiding the column “*Functions and Requirements*” in FMEA document,

- *Suggest entries in Control Plan and FMEA when a new operation is added* – selecting this field automatically activates filling fields in FMEA and Control Plan documents (see description in point 6 “*Principles of automatic creation of FMEA and Control Plan rows*”)

- *Split column “Potential effect of failure” to Process and Customer in FMEA* – it is possible to describe the effect of failure separately as an impact for Customer and as an impact for internal process or product. Tick this box to unhide column “*Potential effect of failure (Customer)*”. You can also unhide additional columns to FMEA and Control Plan using appropriate boxes,

- *Your login, password* – fields used to change the password to Qdoc program,

- *Admin login, Admin password* – if you are an administrator of the program and you have such permissions, you can grant them for the duration of one session to currently log on user. This requires providing the login and passwords of the user with ADMIN rights.

- *Show “Shift”, “Comment”, Repaired” fields* – tick these boxes if you would like to extend range of the information in “*Defectiveness*” tab.

- *PPM,FPY* – choose which indicator should be calculated and presented in the “*Process Defectiveness*” reports

“Saving and lists” Tab

In this tab you can define the path to established previously catalogue, which will contain all common Projects created by different users. For that purpose after creating the catalogue with network access, you must indicate it in the field “*Save projects on a common and shared LAN folder*”. By activating this option you gain access to “*Users*” Tab.

Make sure that each Qdoc user can save/modify files in the appointed network catalogue.

Note: The project catalogue in remote location must be dedicated and cannot have other catalogues not related to Qdoc projects.

If you are the only Qdoc user, leave selected field “*Save projects on the local disc (it is program installation folder)*”

Table “*List of entries (Process Diagram, FMEA, CP)*” contains all entries made by the user in chosen columns of mentioned documents (see point 7 for more details). From the level of this tab you can freely edit and delete them.

“Users” Tab

This tab is active only in the work with a “*common and shared LAN folder*”. In order to use it, switch on “*Server*” by clicking this button in the window “*Open Project*” on the left down side of Qdoc program. You must appoint the user, who will be **the Administrator** managing created

documentation. By default, the new user cannot edit any document of the Project. Administrator of the program can grant rights of edition to specific documents, because only he has an access to “Users” Tab. After the first start-up of Qdoc, in order to grant ADMIN rights to the user, who will become the Administrator of program, in “General” Tab in the section Extra Access you must enter as the login: ADMIN and as the password: admin123 (previously it is necessary to switch to work in “Server” mode). After you click the button “Extra Access”, you can open “Users” Tab and provide changes in the settings. The list of users includes all Logins of computers on which Qdoc program is running and which have the same path to shared project catalogue.

- *User Access/Information* – in this section it is possible to grant edition rights to each new user, who uses a common path to the project catalogue. **Note:** Each user must have a unique LOGIN, because this guarantees smooth work of Qdoc program. **It is also necessary** to fill the fields “First Name” and “Surname” of given user, because they are used to create Teams of Approval.

- *Check who is using the project* – Qdoc program monitors the occupancy of projects, i.e. supervise the one which are currently used by the user. This is to avoid a situation of project edition by more than one user at the same time. A relevant message is displayed with the login name that uses the given Project, when you try to open the Project that is currently used. **Note:** It may happen that Qdoc program will display a false message of the occupancy of the given Project. Such a situation can be caused by Qdoc closure in a moment of problems with the network access to remote catalogue. In this situation, the user indicated in message of the program should open Qdoc program and one more time finish his work without additional activities.

- *Define Approval Team* – this field is used to define the Team of Users, who will be responsible for approving the appointed Project. Remember to fill the fields “First Name” and “Surname” in the table of users, because they will be displayed in the Project in field “Approval Team”. As the date of approving the Project and all its documents, a date of approving by the last user is accepted.

Note: remember that resetting of the Team deletes also the status of project approval, and therefore the approval process must be conducted one more time after resetting the Team of Approval.

9. Project tree

Window “Open Project” contains the list of all catalogues assigned to each created Project. In order to open the Project you need to double-click on the lock icon. The icon in red indicates that the Project doesn't have a defined Team of Approval, and status of the project is “NOT APPROVED”. The icon in blue indicates that the Team has been defined, however the Project is not yet approved and has the status of “NOT APPROVED”. Icon in green indicates that the Project has a defined Team, and all its members approved the Project. In the process, the status of such a Project is “APPROVED”.

10. Activation of a full version of Qdoc

A trial version of Qdoc software has got all features and modules available in a full version of program, therefore the new users are able to test application within a whole range of functionality. Only one limitation is related to the number of rows which users can add to the Process Flow Diagram, FMEA and Control Plan.

An activation key is sent to a Customer by email within 24h after payment was made. One activation key is connected with one license, and can be used only on the one computer with unchanging Windows system. The license is indefinite, it means that never expires. The pricing list is available on the official **Qdoc Software** website.

For the Customers who bought activation key, each Qdoc software updates are for free without any additional costs.

If you are interested our **Qdoc software** please contact us using the following email address.

kontakt@qdoc.com.pl

Official Qdoc software website:

<http://www.qdoc.com.pl/engindex.html>