102-RN-18200

64bit version

FFCAM 2018

Release Notes

Introduction

This manual is described about the release note of Makino Milling Machine product FFCAM.

Please read it through before using FFCAM.

Caution

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(7) Screens used in this manual:

- Screens shown in this manual may vary depending on the model.
- Screens shown in this manual may slightly differ from the actual display.

<<Contents>>

1. FFCAM Release Notes

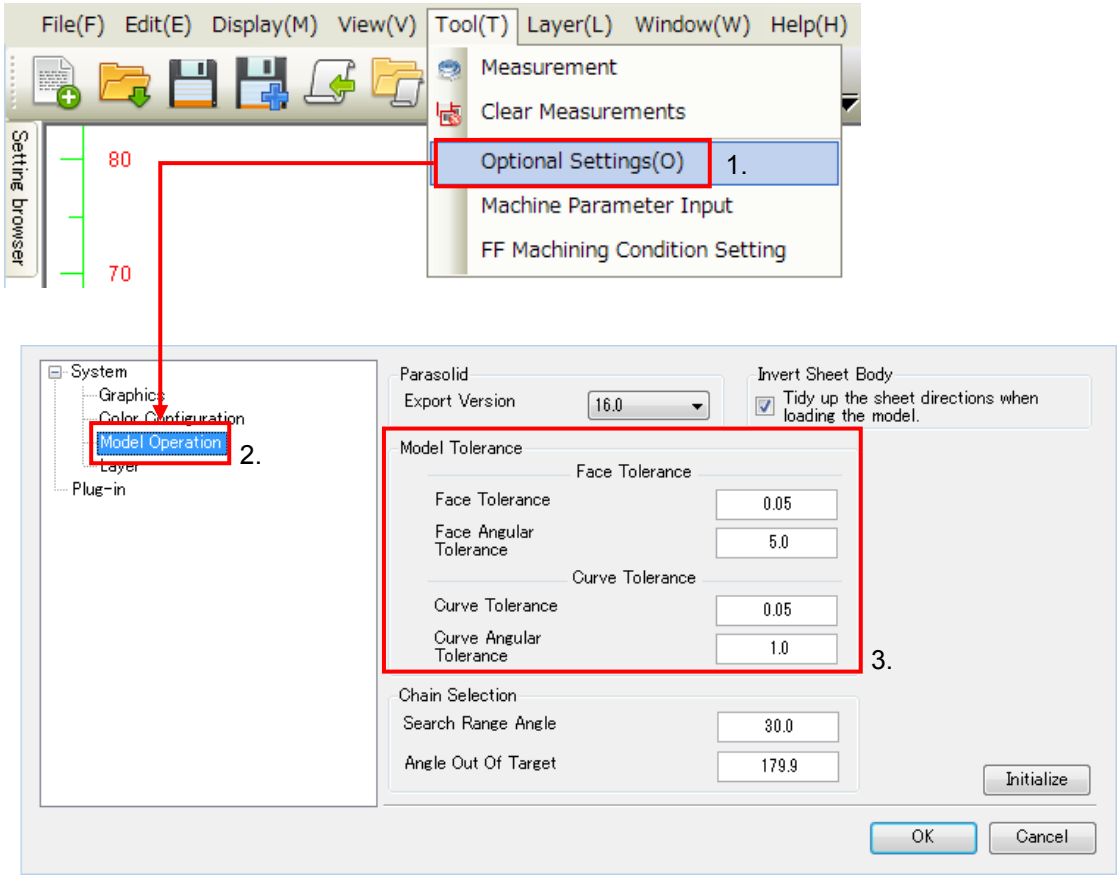
1.1 Restrictions on Functions

1.1.1 CAM function

(1) An error may occur during importing the model data by the graphic driver, and then the FFCAM operation is disabled. In such a case, increase the “Model Tolerance” value of the system parameters.

- The recommended tolerance value can be set by pressing the “Initialize” button.
- The recommended tolerance value for a Face and a Curve is 0.05 respectively. Depending on the model size and personal computer performance, and a bigger value may be input.

Setting Procedure:



(2) When "Helical" is specified for Tilt Infeed Motion in machining with a round insert face

mill, a toolpath may be generated with collision between the bottom of the face mill and the workpiece even if the function to "Avoid cutting by the bottom of Round Insert cutter" is selected.

For this reason, set "Along-route" at Tilt Infeed Motion when using a round insert face mill.

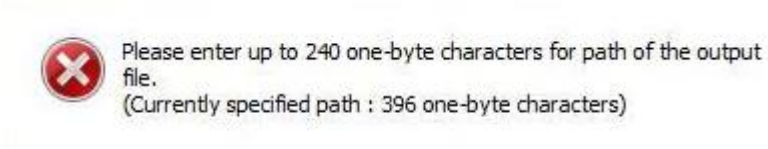
When "Helical" needs to be set for Tilt Infeed Motion, confirm that the following conditions are satisfied:

- Helical Radius > bottom diameter of the round insert face mill
- Helical Infeed Tilt < Max cut angle of the round insert face mill

(3) When toolpath is calculated after moving or copying the machining model, the wrong toolpath will be calculated. The reason is that the previous intermediate data is used. After moving or copying the machining model, be sure to re-register the machining model before calculating toolpath.

(4) The output file name, generated with batch and having many machining, is limited to 240 single byte characters.

If it exceeds the limit, the following message is displayed.



(5) Over four machining definition files cannot be opened at the same time.

1.2 Function Revision (Addition/Change) History

FFCAM 2018.2.0

Machining functions

DUG No.	Description
2017-1090 2017-1331 2017-0452 2016-2217 2016-1363 2016-0432 2015-2290 2015-1919 2015-0728	A function which divides CL was added based on the cutting time and cutting length.
2016-1663	A function was added which restricts unnecessary air cut path output when a negative finishing allowance is specified while the CR section machining mode of the corner R machining is [Contour] or [Contour + Along area].

Operation functions

DUG No.	Description
-	When the lens barrel tool is specified, using the along-section function of contour machining was enabled.
-	When the lens barrel tool is specified, specifying [scallop height] for path interval in the contour machining and projection machining was enabled.
2018-1188	Deletion function of images which are displayed in the setting browser was added.
-	A display button at the parameter section displayed in the setting browser was added.
-	In the content displayed in the setting browser, the displayed position of the FFCAM project name was changed to the title bar of the setting browser.
2018-0535	To the deletion function located on the title bar of Machining create, a function which inclusively deletes an output file for calculations was added.

FFCAM 2018.1.0

Operation functions

DUG No.	Description
-	Professional data output function was added.

Post Processor

DUG No.	Description
-	To a variable on the POST edit screen, [Program Name], [Machining Start Point (X axis)], [Machining Start Point (Y axis)], and [Machining Start Point (Z axis)] were added.
-	To [Conditional Branching] which is a method on the POST edit screen, [Other Than Above], an equation which is used only when a value of conditional expression do not match, is added.
	To [Conditional branch] which is a method on the POST edit screen, specifying [Return value] of a conditional expression became possible.
	Names of the return values of “Conditional branch,” a method of the POST edit screen, were changed from [true] and [false] to [Result1] and [Result2].
	[Absolute Value] which is a method to output an absolute value was added to the POST edit screen method.
	[Main Program], [Main Program Start], and [Main Program End] which are insert statements for Professional data output function are added to the POST edit screen insert statements.
	[Repetitive Output by Machining] which is a method for Professional data output function was added to the POST edit screen method.
	[Main Program Name], [[MP] Project Number], [[MP] Project Name], [[MP] Machining Geometry Number], and [[MP] Machining Work Number] which are variables for Professional data output function are added to variables of the POST edit screen.

FFCAM 2018.0.0

Machining functions

DUG No.	Description
-	Outputting a barrel tool path which a lens tool is attached became possible.

-	Recognizing a peak which the Z height of the machining geometry becomes the highest and outputting a face cutting path to the Z level became possible.
-	Improvement was made so a path which passes the gap is output depending on the shape even the gap is twice smaller than R of the contour corner R.
-	During the inward follow motion, an inward path that is moved to inside returns toward outside after the path output. This motion was improved.

Operation functions

DUG No.	Description
-	Parameter setting of the barrel tool which the lens tool is attached became possible.
-	Multi-step setting of the shank shape of the tool became possible.
-	Setting the two-piece combined holder became possible.
-	A function to create the angle line was added to the curve creating function.
-	A function to edit a curve (divide, trim, extend, fillet) was added to the curve creating function.
-	Specifying a machining direction as a plane to create a curve to the curve creating function became possible.
-	The supporting indication function (grid, restriction information, distance information) for curve creations was added to the curve creating function.
-	In the setting browser, setting figures or text to the process or machining which are registered to the template became possible.
-	The template file saved in the [Template] folder was made displayed in a list form in the user database.
-	Selecting multiple processes and machining displayed in the user database became possible.
-	The display button on the set browser screen was added to the tool bar in the user database.
-	Using [STL file read option] as the FFCAM standard function became possible.
2017-0987	In the CSG interface, designation function for target of outputting the tool library file (.tls) became possible.
2015-0397 2017-0801	A function to designate an identification number to the machining shape, material, and fixture in the CSG interface was added.
-	Setting the initial value of the CSG folder path became possible in the CSG interface.
2016-2671	In the insertion statement macro, outputting [NC creation date] and [Finish allowance] information to the NC file became possible.

-	It was improved so keeping the pressed condition of the Draw tool button on the Tool select screen became possible.
-	In the list in the Simulation screen, the [Tool path] row was added, and displaying the path location in CL became possible.
-	In the Simulation screen, the setting was changed so the background color of the cell which the overhang length was calculated was changed.
2017-0466	The error message displayed when the detail display is selected in the simulation was improved.
-	Changing the height and width of the Tool DB maintenance screen became possible.
-	In the automatic numbering function, changing the last number in the string became possible.

Post Processor

DUG No.	Description
2013-2287 2016-1547 2016-2671	The information which can be output to the NC was added to the variable and macro of the PSOT edit screen.
-	On the POST edit screen, importing and exporting functions were added for macros added by a user.
-	On the POST edit screen, a function to close the reading post file was added.
2017-0521	When changing a name of the macro added by the user, checking a former name became possible on the POST edit screen.
2017-1418 2017-1725 2018-0016	Outputting holder information to the Processing instruction sheet (.csv, .lst) was set.
2015-0927 2016-1228 2017-0642	It was enabled to output the tool overhang length which was calculated in the simulation to the Processing instruction sheet (.csv).

Installer

DUG No.	Description
-	Installing the OSG data of the machine which is compatible with the control system, Professional6, to the installation folder of FFCAM became possible.

1.3 Correction of Problems

FFCAM 2018.2.0

Machining function

DUG No.	Description
2017-2337	In the core pocket machining, calculation was disabled when a stock model created in the high accuracy form was loaded. This problem was corrected.
-	[Bottom corner R] of the projection machining was not reflected to the path depending on a machining geometry. This problem was corrected.
2018-0311	When the gap machining function was enabled in the contour machining, the calculation became longer when a standing wall section was included in the machining region. This problem was corrected.
-	When the holder comments of holder (1) and holder (2) on the Tool select screen were both input, the calculation was disabled. This problem was corrected.
2018-1011	Calculations of machining which lens barrel tool was specified were sometimes disabled. This problem was corrected.
2018-1206	In the contour machining, when the model top automatic recognition function was calculated with the tool being set at the center, the path unintentionally reached the top section of machining geometry. This problem was corrected.
2018-0906	In the machining mode [projection] in the contour projection machining, the [Contour corner R] setting was reflected to the path. This problem was corrected.
2018-1138	In the contour face cut machining, when [Follow (high feed machining)] was specified for the motion type, inappropriate path was output depending on the machining geometry. This problem was corrected.
2018-1470	When the CR section machining mode of Corner R machining was set to [Contour + Along area], using [Contour corner R] increased the tool load in the path of Along area. Measures were adopted for this problem.

Operation functions

DUG No.	Description
-	In the curve creation function, the fillet operation could not be executed properly. This problem was corrected.
2018-0783 2018-0964	In the curve creation function, when the curve offset was used, offset on the work plane was disabled. This problem was corrected.

-	While creating a point in the curve creating function, the coordinates function was not properly executed. This problem was corrected.
-	While creating a curve in the curve creating function, when the view operation was executed, the FFCAM sometimes abnormally ended. This problem was corrected.
-	While creating a curve in the curve creating function, when the fit function is executed, the model is not properly fit to the FFCAM screen. This problem was corrected.
-	While creating a curve in the curve creating function, when the FFCAM screen was closed with the Fillet operation screen being displayed, an exceptional error was displayed. This problem was corrected.
-	While creating a curve in the curve creating function, when the grid display was set valid, the curve restriction mark was not drawn. This problem was corrected.
	In the English version of FFCAM, a blank space was displayed on the Macro specification screen of the insert statement. This problem was corrected.
	When the lens barrel tool was specified, the calculation of the path step width was incorrect. This problem was corrected.
2018-1176	[STL model machining function] was displayed for [Select option] on the Option setting screen. This problem was corrected.
2018-0984	In the CL display function, the shape of tip section of the chamfering tool was not drawn correctly. This problem was corrected.
2017-1773	When the tool display function on the 5 axis parallel machining setting screen was used, the tool hiding process was not executed properly. This problem was corrected.
-	Every time the Database screen was opened on the Tool select screen, the number of user objects increased, causing increased load on the PC. This problem was corrected.
-	On the Tool DB maintenance screen, Veri cut interface, and machine operation simulator, the boring tool geometry was not drawn correctly. This problem was corrected.
2017-1359	On the cutter and holder edit screen, an ID was not displayed. This problem was corrected.
-	On the Tool DB maintenance screen, machining condition of the tool data in the inch unit system could not be imported. This problem was corrected.
-	On the Tool DB maintenance screen, an exceptional error occurred during an import of tool data. This problem was corrected.
2018-1006	The product group names registered on the Tool DB maintenance screen could not be used in other functions. This problem was corrected.
-	When editing the tool data on the Tool DB maintenance screen, inputting numbers and letters other than decimal points were enabled. This problem was corrected.

-	When a holder was set in the Tool select screen, inappropriate error messages were displayed. This problem was corrected.
-	Inappropriate indications on the screen in the Chinese (simplified characters) version of FFCAM were corrected.
-	Inappropriate indications on the screen in the German version of FFCAM were corrected.
-	Inappropriate messages on the screen in the German version of FFCAM were corrected.
2018-1387	When the machining with the taper-shape tool specified was calculated, the shank diameter output to the machining information file was incorrect. This problem was corrected.
-	When a simulation was executed by using a lens barrel tool with a nominal length smaller than the tool radius, an error was output in the simulation. This problem was corrected.
-	On the Simulation tool information screen, the neck diameter of the drilling tool was indicated with an wrong value. This problem was corrected.
-	On the Display item select screen of the setting browser, transition of check boxes displayed on the tree view was inappropriate. This problem was corrected.
-	It was corrected so the top line of the tree in the user database is automatically selected when FFCAM is started up.
2018-0901	The time indication on the engine monitor is 12-hour clock without AM and PM indication. It was changed to the 24-hour clock indication.
2018-1205	On the User setting screen of the keyboard, some commands were duplicated on the command list. This problem was corrected.

Document

DUG No.	Description
2018-1175-	The restriction items regarding 32-bit OS were deleted from the release note.

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Operation functions

DUG No.	Description
	While the work plan folder is output in the professional data output function, the NC file

	created in FFCAM is not properly output to the work plan folder. This problem was corrected.

FFCAM 2018.1.0

Machining function

DUG No.	Description
-	When 3 axis 5 axis conversion is conducted, the duration becomes long. This problem was corrected.
-	Specifying [Move up to Level Cut Start Point] to [5 axis Parallel Machining], [5 axis Along-surface Machining], and [5 axis Route Machining] was not reflected to the path after calculation. This problem was corrected.
-	When the tool has the multi-step shank shape, the Calculation angle calculating function does not work. This problem was corrected.
-	When the entire length of cutter is longer than the overhang length, the Calculation angle calculating function does not work. This problem was corrected.
-	When a value other than 0 is specified to the attachment position of the combination holder, the Calculation angle calculating function does not work. This problem was corrected.

Operation functions

DUG No.	Description
-	When the machining creating process or the machining data is copied, an exceptional error occurred. This problem was corrected.
2018-0546	[Tolerance (inside)], [Tolerance (outside)], and [Arc interpolation output] which are parameters not available in a 3D curve machining are unintentionally displayed on the screen. This problem was corrected.
-	On the [Curve creation] screen, the created angle line cannot be finalized with a center button of the mouse. This problem was corrected.
-	On the [Create Curve] screen, [Project] is not corresponding to the Point create function. This problem was corrected.
-	In the user database process or machining, transfer operation by the mouse cannot be conducted properly. This problem was corrected.
-	Image files registered in the user database are sometimes displayed on the PC desktop.

	This problem was corrected.
2018-0930	When a saving operation with a right-click of the mouse is conducted on the user database, image files and/or explanations set to a process or a machining are not sometimes saved. This problem was corrected.
-	The position of a boundary line of the setting browser shifts a little by little along the screen operation. This problem was corrected.
-	The macro item of the insert statement for machining finish is not properly displayed. This problem was corrected.
-	[STLCAM plug-in] was displayed on the Option setting screen unintentionally. This problem was corrected.
-	Inappropriate messages on the screen in the Chinese (simplified characters) version were corrected.
-	Inappropriate messages on the screen in the English version were corrected.
-	While creating a machining, when the lens barrel tool registered to the tool database opens the tool database screen with the FFCAM tool select function, the tool is not displayed. This problem was corrected.
-	While creating a drilling machining, when the center drill registered to the tool database opens the tool database screen with the FFCAM tool select function, the tool is not displayed. This problem was corrected.
-	During the overhand length parameter check on the Tool select screen, a value equal to or lower than the entire length cannot be specified. This problem was corrected.
2018-0746	The parameter check of the neck diameter on the Tool select screen is not appropriate. This problem was corrected.
-	The parameter check specifications of the lens barrel are inconsistent between the Tool select screen and the Tool database maintenance screen. This problem was corrected.
-	On the Tool select screen, the parameter check of the nominal length of the lens barrel is not conducted. This problem was corrected.
-	When the machining is created by specifying the lens barrel, the parameter check of finish allowance is incorrect. This problem was corrected.
-	When the input system of unit of FFCAM is inch, the shank and holder parameters on the FFCAM tool select screen are not displayed in inch. This problem was corrected.
-	Holder 1 and Holder 2 indications are inconsistent on different screens. This problem was corrected.
-	When a bar indicating the holder name of the Tool select screen is clicked, the [Delete] button becomes inactive. This problem was corrected.
-	When the [ESC] key is clicked while the Tool database screen is opening on the Tool

	select screen, the machining setting ends. This problem was corrected.
2018-0928	When a machining data created in the former version of FFCAM is opened with FFCAM2018, the dimension at the shank section changes in different tool types. This problem was corrected.
-	On the Tool edit screen of the Tool database, the scrolling operation with a mouse cannot be conducted properly. This problem was corrected.
2018-0264	The filter function on the Tool database screen does not operate properly. This problem was corrected.
-	When the [Maximize] button is clicked on the Tool data edit screen, maximization does not occur on the PC screen. This problem was corrected.
-	In the English version, messages on the Tool edit screen of the Tool data are not fully indicated. This problem was corrected.
-	When the tool data of the former data format is imported to the Tool database maintenance screen of FFCAM2018, the pencil neck shape tool data unintentionally changes to a straight shape. This problem was corrected.
-	When a two blocks are specified by using the holders of the same ID on the Tool edit screen of the Tool database, only data of the first block is registered. This problem was corrected.
-	During the machine simulation, the wire frame display becomes unavailable. This problem was corrected.
-	The [T], [D], and [H] parameters on the Simulation screen list are editable. This problem was corrected.
-	When a simulation is conducted with the [Cutting depth calculation] specified and [Z Level] activated in the simulation, a collision to the shape occurs. This problem was corrected.
2018-0374	When a drilling machining with the indexing direction specified is simulated, uncut shape becomes illegal. This problem was corrected.
2018-0488	When the machining data is registered to the simulation, a check mark at [Auto Simulation Reserve] is removed. This problem was corrected.
-	During a simulation, the holder clearance becomes excessively large in some holder shapes. This problem was corrected.
-	A part of parameters on the simulation list is indicated at the center. This problem was corrected.
-	In the simulation, the holder defined in the program at the overhang length calculation is indicated on the screen. This problem was corrected.
-	In the English version, messages on the Tool information screen of the Simulation are

	not fully indicated. This problem was corrected.
2018-0680	The serial-numbering function of the file name on the Repost screen is not available. This problem was corrected.
-	When the input system of unit in FFCAM is inch, the values of the machining geometry and the work output in the Vericut become large. This problem was corrected.
-	When the input system of unit in FFCAM is inch, the values of the machining geometry and the work dimension values output in the CSG interface become large. This problem was corrected.
-	When the fixture offset is specified on the CSG interface, the specified offset affects also the machining geometry and work. This problem was corrected.
-	When the drilling machining is specified and the Vericut interface is tried to be started, an exceptional error occurs. This problem was corrected.
-	When the drilling machining is specified and the CSG interface is tried to be started, an exceptional error occurs. This problem was corrected.

Post Processor

DUG No.	Description
-	[Create NC date] specified by the insert statement macro is not output on the machining instruction sheet (LST, TCSV, CSV). This problem was corrected.
-	On the machining instruction sheet in the HTML format, the shank shape value is not output. This problem was corrected.
-	When [Total of Machining] of the POST edit screen variable is used, a correct value is not output. This problem was corrected.

FFCAM 2018.0.0

Machining function

DUG No.	Description
2016-2192	The wrong inclined infeed movements were output in a 3D curve machining. This problem was corrected.
2016-2506	The path being different from the selected curve was output in a 3D curve machining. This problem was corrected.

2016-0846	The paths to not follow the selected curves were output sometimes in 3D curve machining. This problem was corrected.
2016-1580 2016-2449	The paths with biting a machining shape by a tool was output in a 3D equi-pitch machining. This problem was corrected.
2016-2100	A wrong path was output when the corner edge function used in a contour machining. This problem was corrected.
2016-2174	The path with biting a machining shape by a tool was output in a contour machining, when setting the more than half value of the tool radius as the negative finishing allowance. This problem was corrected.
2017-0760	When the tool position of a closed guide curve was set as the contact point in a 3D equi-pitch machining, the tool position was not reflected to the path. This problem was corrected.
2018-0070	Narrowing the pick width in the 3D equi-pitch machining increased the memory consumption. This problem was corrected.
2017-0444 2017-1018	When [Bottom corner R] was set in a contour projection machining, a path could not be output. This problem was corrected.
2017-0883	In Follow (high-feed machining), when [Set the shared part with workpiece as an area] set disabled and [Tool load reduced infeed] set enabled, offset was generated. This problem was corrected.
-	In Follow (high-feed machining), when [Guide cutting] is specified, an inappropriate path is output. This problem was corrected.
2017-1055	When [Follow (high-feed machining)] and [Round insert bottom surface interference check] were used together in the contour face cutting machining, a wrong path was output. This problem was corrected.
-	In Follow (high-feed machining), a path sometimes is not output in a specific machining shape. This problem was corrected.
-	When the overhang length divide enabled in the Machining setting screen, an error occurred during the calculation. This problem was corrected.
2017-1043	When the machining end point set to the same position as the hole of first machining in the drilling, the machining end point was not output to the path. This problem was corrected.
2017-1087	A path sometimes was not output in the 2D contour machining. This problem was corrected.
2017-1270	When a flat end mill and the Z area setting were used together in a contour projection machining, a wrong path was output. This problem was corrected.
-	A path was not output to a specific Z level in Follow (high-feed machining).This problem

	was corrected.
-	When the guide cutting width was larger than the radius of the tool bottom surface in Follow (high-feed machining), an offset amount was generated. This problem was corrected.
-	A path was not sometimes output to the selected plane at the high function mode in a contour projection machining. This problem was corrected.
-	The paths with the guide cutting motion were different in Normal mode and High Function mode in a contour projection machining. This problem was corrected.
2017-1059	When a machining geometry had many holes with different directions, the calculation time got longer. This problem was corrected.
2017-1479	The paths of increasing tool load at the Along-area mode in a corner R machining were sometimes output. This problem was corrected.
2017-1562	During a corner R machining, when [Corner radius addition] is specified in the Contour mode, the operation ends abnormally. This problem was corrected.
2017-2048 2017-1037	When the specific machining geometry, a path with biting a machining geometry was output in the contour machining. This problem was corrected.
-	When the pick width was larger than the diameter of the tool bottom surface in Follow (high-feed machining), an inappropriate path was output. This problem was corrected.
-	When [System offset] is set disabled in Core pocket machining, a path is not output to the open machining geometry. This problem was corrected.
2017-0667	When [Z Drive-in cut operation] set zig-zag in the path machining, a path with biting a machining geometry by a tool was output. This problem was corrected.
-	When [Move the infeed position] of the contour approach motion and [Z spiral operation] were used together in the contour machining, a path biting a machining geometry by a tool was output. This problem was corrected.
2017-1452	A path is not output in an order of the approach vector set in the FFCAM screen. This problem was corrected.
-	When the contour machining path with enabling the gap machining was converted from 3-axis to 5-axis, a path with the tool interference a machining geometry was output by the movement between picks. This problem was corrected.
2017-1846	When the tool collision avoidance in the simultaneous 5-axis movement set the simple avoidance, a path of the reference axis not to be reflected the indexed direction was output. This problem was corrected.
2017-2086	When an index machining was converted with from the 3-axis to 5-axis conversion, the path not to be reflected the indexed direction at the machining start point was output. This problem was corrected.

-	When converted with from the 3-axis to 5-axis, a path that a tool interfered against a machining geometry by a path moving above the area was output. This problem was corrected.
-	When converted with from the 3-axis to 5-axis, a path that a tool interfered against a machining geometry by the escape motion path was output. This problem was corrected.
-	When the machining with setting [Move up to level cut start point] as escape was converted by from the 3-axis to 5-axis, the movement among picks became the escape motion in contour face cut machining. This problem was corrected.
-	When the machining with [Cutting start and end positions only] enabling was converted by from the 3-axis to 5-axis, contour approach movements are added to positions other than the cutting start and end points. This problem was corrected.
-	When converted with from the 3-axis to 5-axis, a path with interfering the machining geometry by the tool path of tilt infeed was output. This problem was corrected.

Operation functions

DUG No.	Description
2017-0095	When the FFCAM was started with the FFCAM shortcut registered in the Windows task bar, a stock file could not be drawn. This problem was corrected.
2017-0137	When the under neck length was smaller than the tool radius at the overhang length calculation in the simulation, the minimum tool length could not be calculated. This problem was corrected.
2017-1179 2017-1734	When the machining condition of a tool maker was used, it took a long time to open the setting screen of machining parameter**.** This problem was corrected.
-	The angle of 90 or -90 degree could be entered at the holder dimension parameter. This problem was corrected.
2017-1404	When the along-surface machining of the template created in FFCAM V.12 was imported with FFCAM V.17, the surface select screen did not work. This problem was corrected.
2017-1011	When the along-surface machining was [Open], the guide figure was not changed even after the control point was changed. This problem was corrected.
2017-1275	When a hole geometry face was divided, the hole position was recognized double. This problem was corrected.
-	The figure of taper tool shape in the tool DB maintenance screen was wrong. This problem was corrected.
-	When an existing cutter data was edited in the tool DB maintenance screen, the data

	was registered as a new data. This problem was corrected.
2016-1081	When a dot (.) was included in a machine name, a value of [Tool path output] on the machine parameter screen could not be changed. This problem was corrected.
-	When the CSG interface was started by selecting a non-calculated machining, an inappropriate message was displayed. This problem was corrected.
-	When the holder interference check was disabled in a simulation, the overhang length calculation was run. This problem was corrected.
-	The cross section at a collision area was not displayed in the simulation display. This problem was corrected.
-	When a long machine name was displayed in a simulation screen, the simulation progress bar was hard to see. This problem was corrected.
-	When a cross section position was changed during the cross section displayed, an exceptional error occurred. This problem was corrected.
-	When running a machine simulation in a simulation, the work origin could not set from the second time. This problem was corrected.
-	When interference occurred at a minute volume, the overhang length could not be calculated. This problem was corrected.
-	After displaying interference information in a simulation, the display did not switch to a right tool. This problem was corrected.
-	When the simulation is restarted after displaying and hiding a machine in the simulation pause, the machine components were displayed wrong. This problem was corrected.
2016-2658	When an interference occurred at a machine table and the work initial position in a simulation, the wrong interference information was displayed. This problem was corrected.
-	The active state of a screen was wrong with depending on the manipulation status in the simulation. This problem was corrected.
-	A clearance did not appropriately work for the holder with overhang in a simulation. This problem was corrected.
2017-0717	The detail display sometimes finished in the middle of displaying. This problem was corrected.
-	When the repost list had the multiple NC files with a same name, an exceptional error occurred while a repost was run. This problem was corrected.
-	The state of [CL select] checkbox in the repost screen was forcibly changed when the screen is switched to the simulation screen. This problem was corrected.
-	The size of machine display screen in the machine structure setting screen was not saved rightly. This problem was corrected.

Post Processor

DUG No.	Description
-	When calculating the machining with the tool other than taper tools, the information of a taper tool was output in a processing instruction sheet (.tcsv). This problem was corrected.
-	When calculating the machining with a taper tool, the information of a taper tool was not output in a processing instruction sheet (.tcsv). This problem was corrected.
2017-1495	When a [Scan] mode machining of a contour scan machining was calculated, an XY pitch value was not output to the processing instruction sheet (.csv).This problem was corrected.
2017-1462	When the contour machining with enabling gap machining was calculated, an XY step value was not output to the processing instruction sheet (.csv).This problem was corrected.
2014-0240	When a machining with setting a negative value at the finishing allowance was calculated, the allowance in the processing instruction sheet (.lst) was not output. This problem was corrected.
2016-0697 2016-2414	The machining information description in the FFCAM [Sample] folder had a mistake. This problem was corrected.
2017-1333	When [Method] was dragged and dropped in the POST edit screen, an exceptional error occurred. This problem was corrected.
2016-2645	The line feed code after a specific method in the POST edit screen was not reflected to the NC file. This problem was corrected.