POST VARIABLES AND API REFERENCE

Introduction

This topic contains the reference for all posting variables and API calls used in post processor modification and scripting.

Post Command Variables

The following section of variables are the overall posting engine variables to modify the output of the posted code.

Command Variables

debug_off	
Mill Job	Turn off automatic debug comments in post output
Lathe Job	
Mill Turn Job	

debug_on	
Mill Job	Turn on automatic debug comments in post output
Lathe Job	
Mill Turn Job	

default_add_spaces	
Mill Job	Set add spaces back to condition before force_no_add_spaces was called.
Lathe Job	
Mill Turn Job	

force_drill_z	
Mill Job	Force the z value for drilling to be output next time even if modal.
Lathe Job	
Mill Turn Job	

force_no_add_spaces	
Mill Job	Force no spaces even when default is set to add spaces.
Lathe Job	
Mill Turn Job	

force_x	
Mill Job	Force the x value to be output next time even if modal. It needs to be called before the rapid_move variable
Lathe Job	
Mill Turn Job	

force_y	
Mill Job	Force the y value to be output next time even if modal. It needs to be called before the rapid_move variable
Lathe Job	
Mill Turn Job	

force_z	
Mill Job	Force the z value to be output next time even if modal. It needs to be called before the rapid_move variable
Lathe Job	
Mill Turn Job	

memorize_line_number	
Mill Job	Memorize sequence number for use later.
Lathe Job	
Mill Turn Job	

memorized_line_number	
Mill Job	Use memorize sequence number.
Lathe Job	
Mill Turn Job	

newvars	
Mill Job	Use new position variables and misc. variables.
Lathe Job	
Mill Turn Job	

oldvars	
Mill Job	Use old position variables and misc. variables.
Lathe Job	
Mill Turn Job	

start_add_block_delete	
Mill Job	Add block delete to all lines until stop_add_block_delete is used
Lathe Job	
Mill Turn Job	

stop_add_block_delete	
Mill Job	Stop adding block delete that started from using start_add_block_delete
Lathe Job	
Mill Turn Job	

output_tool_list	
Mill Job	Signals the output of the tool list.
Mill Turn Job	Signals the output of the tool list.

output_lathe_tool_list	
Lathe Job	Signals the output of the tool list.

output_stock_definition	
Mill Job	Signals the output of the stock definition
Mill Turn Job	Signals the output of the stock definition

Misc Characters

cr_lf	
Mill Job	Outputs carriage return and line feed characters on the line.
Lathe Job	
Mill Turn Job	

single_quote	
Mill Job	Outputs the single quote character.
Lathe Job	
Mill Turn Job	

quote	
Mill Job	Outputs the double quote character.
Lathe Job	
Mill Turn Job	

n_spaces	
Mill Job	Outputs spaces into the code. The number of spaces output are determined by the number of digits of the previous line number.
Lathe Job	
Mill Turn Job	

Post Variables

The following is a list of all the available post variables to be utilized in the system.

absolute_coord	
Mill Job	Output code to set coordinate to absolute mode defined by post question: 620
Mill Turn Job	Output code to set coordinate to absolute mode defined by post question: 620

incremental_coord	
Mill Job	Outputs the string value defined in post question: 621 and sets the mode to Incremental.
Mill Turn Job	Outputs the string value defined in post question: 621 and sets the mode to Incremental.

inch_mode	
Mill Job	Outputs the string value defined in post question: 614 and sets the mode to Inch
Mill Turn Job	Outputs the string value defined in post question: 614 and sets the mode to Inch

metric_mode	
Mill Job	Outputs the string value defined in post question: 615 and sets the mode to Metric
Mill Turn Job	Outputs the string value defined in post question: 615 and sets the mode to Metric

h	
Mill Job	Output length offset register with prefix. API: short MILL_GetLengthOffsetNumber()
Lathe Job	Output length offset register with prefix. API: short LATHE_GetLengthOffsetNumber()
Mill Turn Job	Output length offset register with prefix. Prefix defined by post question: 688 API: short MILLTURN_GetLengthOffsetNumber()

part_height	
Mill Job	Outputs the part height with the prefix from post question: 648 API: double MILL_GetPartHeight()
Mill Turn Job	Outputs the part height with the prefix from post question: 648 API: double MILLTURN_GetPartHeight()

part_length	
Mill Job	Outputs the part length with NO prefix API: double MILL_GetPartlength()
Mill Turn Job	Output the parth length with NO prefix. API: double MILLTURN_GetPartLength()

part_width	
Mill Job	Outputs the part width with NO prefix API: double MILL_GetPartWidth()
Mill Turn Job	Outputs the part width with NO prefix. API: double MILLTURN_GetPartWidth()

Part Setup

work_coord	
Mill Job	Outputs the work coordinate string value based on selected work offset. Maximum work offsets are defined by post question 258. Work offset string values are assigned for each work offset starting at post question 900 go through post question 999. API: short MILL_GetWorkCoordNumber()
Mill Turn Job	Outputs the work coordinate string value based on selected work offset. Maximum work offsets are defined by post question 258. Work offset string values are assigned for each work offset starting at post question 900 and go through post question 999.

	API: short MILLTURN_GetWorkCoordNumber()

work_coord_1 through work_coord_99	
Mill Job	Outputs the work coordinate string value for a specific work coordinate. Work offset string values are assigned for each work offset starting at post question 900 and go through post question 999. API: short MILL_GetWorkCoordNumberCode(int) int = 1 through 99 Example: *var = MILL_GetWorkCoordNumberCode(1)*
Mill Turn Job	Outputs the work coordinate string value for a specific work coordinate. Work offset string values are assigned for each work offset starting at post question 900 and go through post question 999. API: short MILLTURN_GetWorkCoordNumberCode(*int*) *int* = 1 through 99 Example: *var = MILL_GetWorkCoordNumberCode(1)*

clearance_face	
Lathe Job Mill Turn Job	Returns the clearance value for the face of the part defined in the machine setup. Prefix is defined on post question: 1886 API: double LATHE_GetClearanceFace()

clearance_diameter	
Lathe Job Mill Turn Job	Returns the clearance value for the diameter of the part defined in the machine setup. Prefix is defined on post question: 1887 API: double LATHE_GetClearanceDiameter()

clearance_internal_diameter	
Lathe Job Mill Turn Job	Returns the clearance value for the internal diameter of the part defined in the machine setup. Prefix is defined on post question: 1888 API: double LATHE_GetClearanceInternalDiameter()

Positioning

xr	
Mill Job	Returns the X axis rapid location with the prefix defined by post question: 684 API: double MILL_GetXRapid()
Lathe Job	Returns the X axis rapid location with the prefix defined by post question: 684 API: double LATHE_GetXRapid()
Mill Turn Job	Returns the X axis rapid location with the prefix defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 684 will be used. API: double MILL_GetXRapid() double LATHE_GetXRapid()

yr	
Mill Job	Returns the Y axis rapid location with the prefix defined by post question: 685 API: double MILL_GetYRapid()
Mill Turn Job	Returns the Y axis rapid location with the prefix defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 685 will be used. API: double MILL_GetYRapid()

zr	
Mill Job	Returns the Z axis rapid location with the prefix defined by post question: 686 API: double MILL_GetZRapid()
Lathe Job	Returns the Z axis rapid location with the prefix defined by post question: 686 API: double LATHE_GetZRapid()
Mill Turn Job	Returns the Z axis rapid location with the prefix defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The

	prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 686 will be used. API: double MILL_GetZRapid() double LATHE_GetZRapid()

MILL_SetXRapid(double var)–API Only	
Mill Job	Sets the current rapid location for the X Axis using a Double variable API: MILL_SetXRapid(*variable_name*)
Mill Turn Job	

LATHE_SetXRapid(*double var*)–API Only	
Mill Turn Job	Sets the current rapid location for the X Axis using a double variable. API: Lathe_SetXRapid(*variable_name*)
Lathe Job	

MILL_SetYRapid(*double var*)–API Only	
Mill Job	Sets the current rapid location for the Y Axis using a Double variable API: MILL_SetYRapid(*variable_name*)
Mill Turn Job	

LATHE_SetZRapid(*double var*)–API Only	
Lathe Job	Sets the current rapid location for the Z Axis using a Double variable API: LATHE_SetZRapid(*variable_name*)

initpos_x	
Mill Job	Outputs the first X position of the operation based on the previous operation Move list coordinates mode. If its first operation, outputs coordinates as No Machine Compensation mode. Prefix is defined in the post question 684. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and
Mill Turn Job	

	useful in cases where coordinates output should not be in TCP before calling to turn on TCP API : GetDoubleOfPostVariable(“variable_name”)

initpos_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation based on the previous operation Move list coordinates mode. If its first operation, outputs coordinates as No Machine Compensation mode. Prefix is defined in the post question 685. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_z	
Mill Job Mill Turn Job	Outputs the first Z position of the operation based on the previous operation Move list coordinates mode. If its first operation, outputs coordinates as No Machine Compensation mode. Prefix is defined in the post question 686. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_nocomp_x	
Mill Job Mill Turn Job	Outputs the first X position of the operation in No Machine Compensation Move list coordinates mode. Prefix is defined in the post question 684. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_nocomp_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation in No Machine Compensation Move list coordinates mode. Prefix is defined in the post question 685. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP

	API: GetDoubleOfPostVariable(“variable_name”)

initpos_nocomp_z	
Mill Job Mill Turn Job	Outputs the first Z position of the operation in No Machine Compensation Move list coordinates mode. Prefix is defined in the post question 686. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_zcomp_x	
Mill Job Mill Turn Job	Outputs the first X position of the operation in Machine Compensation in Z only Move list coordinates mode. Prefix is defined in the post question 684. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_zcomp_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation in Machine Compensation in Z only Move list coordinates mode. Prefix is defined in the post question 685. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_zcomp_z	
Mill Job	Outputs the first Z position of the operation in Machine Compensation in Z only Move list coordinates mode. Prefix is defined in the post question 686. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable(“variable_name”)

initpos_hybridcomp_x	
Mill Job	Outputs the first X position of the operation in Machine Hybrid Compensation(Mixed

Mill Turn Job	Mode) Move list coordinates mode. Prefix is defined in the post question 684. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable("variable_name")

initpos_hybridcomp_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation in Machine Hybrid Compensation(Mixed Mode) Move list coordinates mode. Prefix is defined in the post question 685. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable("variable_name")

initpos_hybridcomp_z	
Mill Job	Outputs the first Z position of the operation in Machine Hybrid Compensation(Mixed Mode) Move list coordinates mode. Prefix is defined in the post question 686. **NOTE** - To be ideally used in start, tool change, null tool change, 30& 31 blocks and useful in cases where coordinates output should not be in TCP before calling to turn on TCP API: GetDoubleOfPostVariable("variable_name")

initpos_tcp_x	
Mill Job Mill Turn Job	Outputs the first X position of the operation in Part Based (Common for TCP) Move list coordinates mode. Prefix is defined in the post question 684. API: GetDoubleOfPostVariable("variable_name")

initpos_tcp_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation in Part Based (Common for TCP) Move list coordinates mode. Prefix is defined in the post question 685. API: GetDoubleOfPostVariable("variable_name")

initpos_tcp_z	
Mill Job	Outputs the first Z position of the operation in Part Based (Common for TCP) Move list coordinates mode. Prefix is defined in the post question 686. API: GetDoubleOfPostVariable("variable_name")

initpos_origintracking_x	
Mill Job Mill Turn Job	Outputs the first X position of the operation in Origin Tracking Move list coordinates mode. Prefix is defined in the post question 684. API: GetDoubleOfPostVariable("variable_name")

initpos_origintracking_y	
Mill Job Mill Turn Job	Outputs the first Y position of the operation in Origin Tracking Move list coordinates mode. Prefix is defined in the post question 685. API: GetDoubleOfPostVariable("variable_name")

initpos_origintracking_z	
Mill Job	Outputs the first Z position of the operation in Origin Tracking Move list coordinates mode. Prefix is defined in the post question 686. API: GetDoubleOfPostVariable("variable_name")

xr_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

yr_no_output	
Mill Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

zr_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

xf_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

yf_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

zf_no_output	
Mill Job	Updates modality with the new position but does not output the position to the NC file.
Lathe Job	
Mill Turn Job	

xh	
Lathe Job	Returns the X axis home position with the prefix defined by post question 684. The value comes from the X Home position defined in the operations Rapids page. API: double Lathe_GetXHome()
Mill Turn Job	Returns the X axis home position with the prefix for Lathe features only. Milling features currently do not have any parameters to set this value. The value for Lathe features come from the X Home position defined in the operations Rapids page. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 684 will be used. API: double Lathe_GetXHome()

yh	
Mill Job	N/A
Lathe Job	
Mill Turn Job	

Zh	
Lathe Job	Returns the Z axis home position with the prefix defined by post question 686. The value comes from the Z Home position defined in the operations Rapids page. API: double Lathe_GetZHome()
Mill Turn Job	Returns the Z axis home position with the prefix for Lathe features only. Milling features currently do not have any parameters to set this value. The value for Lathe features come from the Z Home position defined in the operations Rapids page. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 686 will be used. API:

	double Lathe_GetZHome()

prev_x	
Mill Job	Returns the value of the previous X axis feed move. Rapid moves are not included. Prefix comes from post question: 684 API: double MILL_GetPreviousXFeed()
Lathe Job	Returns the value of the previous X axis feed move. Rapid moves are not included. Prefix comes from post question: 684 API: double LATHE_GetPreviousXFeed()
Mill Turn Job	Returns the value of the previous X axis feed move. Rapid moves are not included. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 684 will be used. API: double MILLTURN_GetPreviousXFeed()

prev_y	
Mill Job	Returns the value of the previous Y axis feed move. Rapid moves are not included. Prefix comes from post question: 685 API: double MILL_GetPreviousYFeed()
Mill Turn Job	Returns the value of the previous Y axis feed move. Rapid moves are not included. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 685 will be used. API: double MILLTURN_GetPreviousYFeed()

prev_z	
Mill Job	Returns the value of the previous Z axis feed move. Rapid moves are not included. Prefix comes from post question: 686 API: double MILL_GetPreviousZFeed()

Lathe Job	Returns the value of the previous Z axis feed move. Rapid moves are not included. Prefix comes from post question: 686 API: double LATHE_GetPreviousZFeed()
Mill Turn Job	Returns the value of the previous Z axis feed move. Rapid moves are not included. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 686 will be used. API: double MILLTURN_GetPreviousZFeed()

x_f	
Mill Job	Returns the value of the current X axis feed move. Prefix comes from post question: 684. API: double MILL_GetXFeed()
Lathe Job	Returns the value of the current X axis feed move. Prefix comes from post question: 684. API: double LATHE_GetXFeed()
Mill Turn Job	Returns the value of the current X axis feed move. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 684 will be used. API: double MILLTURN_GetXFeed()

y_f	
Mill Job	Returns the value of the current Y axis feed move. Prefix comes from post question: 685. API: double MILL_GetYFeed()
Mill Turn Job	Returns the value of the current Y axis feed move. The prefix is defined by the post mapping section of the post processor. The devices

	have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 685 will be used. API: double MILLTURN_GetYFeed()

z_f	
Mill Job	Returns the value of the current Z axis feed move. Prefix comes from post question: 686. API: double MILL_GetZFeed()
Lathe Job	Returns the value of the current Z axis feed move. Prefix comes from post question: 684. API: double LATHE_GetZFeed()
Mill Turn Job	Returns the value of the current Z axis feed move. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in prefix mapping blocks, then prefix from post question 686 will be used. API: double MILLTURN_GetZFeed()

LATHE_SetXHome(*double var*)–API Only	
Mill Turn Job	Sets the X axis home position. API: LATHE_SetXHome(*variable_name*)
Lathe Job	

LATHE_SetZHome(*double var*)–API Only	
Mill Turn Job	Sets the Z axis home position. API: LATHE_SetZHome(*variable_name*)
Lathe Job	

LATHE_GetXHome()–API Only	
Mill Turn Job	Returns the X axis home position. API: double LATHE_GetXHome()
Lathe Job	

LATHE_GetZHome()–API Only	
Mill Turn Job	Returns the Z axis home position. API: double LATHE_GetZHome()
Lathe Job	

LATHE_SetPickupZ(*double var*)–API Only	
Mill Turn Job	Sets the Z axis pickup value. API: LATHE_SetPickupZ(*variable_name*)
Lathe Job	

LATHE_GetPickupZ()–API Only	
Mill Turn Job	Returns the Z axis pickup value. API: double LATHE_GetPickupZ()
Lathe Job	

LATHE_SetPreviousXFeed(*double var*)–API Only	
Mill Turn Job	Sets the previous feed location for the X Axis using a Double variable. API: LATHE_SetPreviousXFeed(*variable_name*)
Lathe Job	

LATHE_SetPreviousZFeed(*double var*)–API Only	
Mill Turn Job	Sets the previous feed location for the Z Axis using a Double variable. API: LATHE_SetPreviousZFeed(*variable_name*)
Lathe Job	

rapid_to_pickup_z	
Lathe Job	Outputs a “G0” code with a Z axis position move that uses the prefix defined on post question: 686. This is used for the stock handling feature.
Mill Turn Job	Outputs a “G0” code with a Z axis position move. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_to_position_x	
Lathe Job	Outputs a “G0” code with a X axis position move that uses the prefix defined on post question: 684. This is used for the stock handling feature.
Mill Turn Job	Outputs a “G0” code with a X axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_to_position_z	
Lathe Job	Outputs a “G0” code with a Z axis position move that uses the prefix defined on post question: 686. This is used for the stock handling feature.
Mill Turn Job	Outputs a “G0” code with a Z axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_to_stock_feed_z	
Lathe Job	Outputs a “G0” code with a Z axis position move that uses the prefix defined on post question: 686. This is used for the stock handling feature.
Mill Turn Job	Outputs a “G0” code with a Z axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_iplane_face	
Lathe Job	Outputs a “G0” code with a Z axis position move that uses the prefix defined on post question: 686.
Mill Turn Job	Outputs a “G0” code with a Z axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices

	have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_rplane_face	
Lathe Job	Outputs a “G0” code with a Z axis position move that uses the prefix defined on post question: 686.
Mill Turn Job	Outputs a “G0” code with a Z axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_iplane_diam	
Lathe Job	Outputs a “G0” code with a X axis position move that uses the prefix defined on post question: 684.
Mill Turn Job	Outputs a “G0” code with a X axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

rapid_rplane_diam	
Lathe Job	Outputs a “G0” code with a X axis position move that uses the prefix defined on post question: 684.
Mill Turn Job	Outputs a “G0” code with a X axis position. This is used for the stock handling feature. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental.

output_primary_rotary_index **(legacy = output_rotary_angle)**	
Mill Job	*output_rotary_angle* – This calls block 10 which is used to add a prefix and output the *rotary_angle* variable.
Mill Turn Job	This calls block 10 which is used to add a prefix and output the primary_*rotary_angle_output* variable.

output_secondary_rotary_index **(legacy = output_second_rotary_angle)**	
Mill Job	*output_second_rotary_angle* – This calls block 17 which is used to add a prefix and output the second_*rotary_angle* variable.
Mill Turn Job	This calls block 17 which is used to add a prefix and output the output_second_*rotary_angle* variable.

primary_rotary_angle_output **(legacy = rotary_angle)**	
Mill Job	*rotary_angle* – This outputs the rotation angle for the primary axis. The prefix is defined on post question: 722 API: Double MILL_GetRotaryAngle()
Mill Turn Job	Outputs the rotation angle for the primary rotary axis. The prefix is defined on post question: 722 The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. API: double MILLTURN_GetPrimaryRotaryAngleOutput()

secondary_rotary_angle_output **(legacy = second_rotary_angle)**	
Mill Job	*second_rotary_angle* – This outputs the rotation angle for the secondary axis. The prefix is defined on post question: 723 API: double MILL_GetSecondRotaryAngleOutput()short MILL_PRotDirection()
Mill Turn Job	Outputs the rotation angle for the primary rotary axis. The prefix is defined on post question: 722 The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. API: double MILLTURN_GetSecondaryRotaryAngleOutput()

primary_rotary_direction **(legacy = rotary_dir)**	
Mill Job	*rotary_dir* – This outputs the code to define the rotation direction of the primary rotation axis. The codes for CW and CCW are defined on post questions: 710(CW) and 711(CCW). API: short MILL_PRotDirection()
Mill Turn Job	This outputs the code to define the rotation direction of the primary rotation axis. The codes for CW and CCW are defined on post questions: 1xx22 and 1xx23 for workpiece devices and 2xx16 and 2xx17 for toolpiece devices. API: Use Mill API call.

secondary_rotary_direction **(legacy = second_rotary_dir)**	
Mill Job	*second_rotary_dir* – This outputs the code to define the rotation direction of the secondary rotation axis. The codes for CW and CCW are defined on post questions: 712(CW) and 713(CCW). API: short MILL_Get_SRotDirection() 0 = Forward 1= Reverse
Mill Turn Job	This outputs the code to define the rotation direction of the primary rotation axis. The codes for CW and CCW are defined on post questions: 1xx22 and 1xx23 for workpiece devices and 2xx16 and 2xx17 for toolpiece devices. API: Use Mill API call.

p_rot	
Mill Job	This outputs the primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 722 API: double MILL_Get_PRot()
Mill Turn Job	This outputs the primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 722 The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000

	through 5049 for absolute, and 5050 through 5099 for incremental. API: Use Mill API call.

p_rot_no_prefix	
Mill Turn Job	This outputs the primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 722

s_rot	
Mill Job	This outputs the secondary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 723 API: double MILL_Get_SRot()
Mill Turn Job	This outputs the secondary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 723 The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. API: Use Mill API call.

s_rot_no_prefix	
Mill Turn Job	This outputs the primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 722

initpos_prot **initpos_nocomp_prot** **initpos_zcomp_prot** **initpos_hybridcomp_prot** **initpos_tcp_prot** **initpos_origintracking_prot**	
Mill Job	This outputs the initial primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 722 API: GetDoubleOfPostVariable("variable_name")
Mill Turn Job	

initpos_srot **initpos_nocomp_srot** **initpos_zcomp_srot** **initpos_hybridcomp_srot** **initpos_tcp_srot** **initpos_origintracking_srot**	
Mill Job Mill Turn Job	This outputs the initial secondary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 723 API: GetDoubleOfPostVariable("variable_name")

initpos_trot **initpos_nocomp_trot** **initpos_zcomp_trot** **initpos_hybridcomp_trot** **initpos_tcp_trot** **initpos_origintracking_trot**	
Mill Job Mill Turn Job	This outputs the initial tertiary primary rotation axis angle value for rotary and 5 axis motion. The output is formatted with the prefix defined on post question: 724 API: GetDoubleOfPostVariable("variable_name")

force_prot	
Mill Job Mill Turn Job	Forces the primary rotary axis value to output regardless of modality.

force_srot	
Mill Job Mill Turn Job	Forces the secondary rotary axis value to output regardless of modality.

p_rot_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

s_rot_no_output	
Mill Job Lathe Job Mill Turn Job	Updates modality with the new position but does not output the position to the NC file.

rotary_clamp_on	
Mill Job	Outputs the string value to enable the rotary axis clamp on the primary rotation axis. The string value is defined on post question: 716 API: For API usage create logic using the following: short MILL_GetPClampStatus() • 0 = Not Clamped • 1 = Clamped

rotary_clamp_off	
Mill Job	Outputs the string value to disable the rotary axis clamp on the primary rotation axis. The string value is defined on post question: 717 API: For API usage create logic using the following: short MILL_GetPClampStatus() • 0 = Not Clamped • 1 = Clamped

s_rotary_clamp_on	
Mill Job	Outputs the string value to enable the rotary axis clamp on the secondary rotation axis. The string value is defined on post question: 718 API: For API usage create logic using the following: short MILL_GetSClampStatus() • 0 = Not Clamped • 1 = Clamped

s_rotary_clamp_off	
Mill Job	Outputs the string value to disable the rotary axis clamp on the secondary rotation axis. The string value is defined on post question: 719 API: For API usage create logic using the following:

	short MILL_GetSClampStatus() • 0 = Not Clamped • 1 = Clamped

workpiece_device_brake	
Mill Turn Job	This variable is referred to as a Smart variable. Each Workpiece device has post questions that define the brake codes for On and Off. Workpiece Device Post Questions: • 10x05 – String - ON • 10x06 – String – Auto ON • 10x07 – String – OFF When this variable is output from Lathe postblocks the posting engine will output the active workpiece's OFF code. When this variable is output from a milling postblock the posting engine will output the ON code for Indexing operations and will output OFF for simultaneous 4 axis or 5 axis motion. API: string MILLTURN_GetWorkpieceDeviceBrake()

prv_workpiece_device_brake_off	
Mill Turn Job	This variable will output the OFF command from the previously active Workpiece device. *See workpiece_device_brake for more details.* API: string MILLTURN_GetPrvWorkpieceDeviceBrakeOFF()

workpiece_device_brake_on	
Mill Turn Job	This variable will output the ON command for the active Workpiece device. Each Workpiece device has post questions that define the brake codes for On and Off. Workpiece Device Post Questions: • 10x05 – String - ON • 10x06 – String – Auto ON • 10x07 – String – OFF API: string MILLTURN_GetWorkpieceDeviceBrakeON()

workpiece_device_auto_brake_on	
Mill Turn Job	This variable will output the Auto ON command for the active Workpiece device. Each Workpiece device has post questions that define the brake codes for On and Off. Workpiece Device Post Questions: • 10x05 – String - ON • 10x06 – String – Auto ON • 10x07 – String – OFF API: string MILLTURN_GetWorkpieceDeviceAutoBrakeON()

workpiece_device_brake_off	
Mill Turn Job	This variable will output the OFF command for the active Workpiece device. Each Workpiece device has post questions that define the brake codes for On and Off. Workpiece Device Post Questions: • 10x05 – String - ON • 10x06 – String – Auto ON • 10x07 – String – OFF API: string MILLTURN_GetWorkpieceDeviceBrakeOFF()

tool_device_brake	
Mill Turn Job	This variable is referred to as a Smart variable. Each Tool device has post questions that define the brake codes for On and Off. Tool Device Post Questions: • 20x07 – String - ON • 20x08 – String – Auto ON • 20x09 – String – OFF When this variable is output from Lathe postblocks the posting engine will output the active Tool device OFF code. When this variable is output from a milling postblock the posting engine will output the ON code for Indexing operations and will output OFF for simultaneous 4 axis or 5 axis motion. API: string MILLTURN_GetToolDeviceBrake()

prv_tool_device_brake_off	
Mill Turn Job	This variable will output the OFF command from the previously active Tool device. *See tool_device_brake for more details.* API: string MILLTURN_GetPrvToolDeviceBrakeOFF()

tool_device_brake_on	
Mill Turn Job	This variable will output the ON command for the active Tool device. Each Tool device has post questions that define the brake codes for On and Off. Tool Device Post Questions: • 20x07 – String - ON • 20x08 – String – Auto ON • 20x09 – String – OFF API: string MILLTURN_GetToolDeviceBrakeON()

tool_device_auto_brake_on	
Mill Turn Job	This variable will output the Auto ON command for the active Tool device. Each Tool device has post questions that define the brake codes for On and Off. Tool Device Post Questions: • 20x07 – String - ON • 20x08 – String – Auto ON • 20x09 – String – OFF API: string MILLTURN_GetToolDeviceAutoBrakeON()

tool_device_brake_off	
Mill Turn Job	This variable will output the OFF command for the active Tool device. Each Tool device has post questions that define the brake codes for On and Off. Tool Device Post Questions: • 20x07 – String - ON • 20x08 – String – Auto ON • 20x09 – String – OFF API: string MILLTURN_GetToolDeviceBrakeOFF()

rotary_xy_f	
Mill Job	This outputs either the X or Y axis position for wrapping toolpaths. Based on the wrapping axis the prefix is defined by post question: 684 for the X axis and post question: 685 for the Y axis. API: double MILL_GetRotaryXYFeedMove()
Mill Turn Job	This outputs the linear axis position for wrapping toolpaths. The prefix is defined by the post mapping section of the post processor. The devices have their prefixes defined based on DeviceID. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. API: double MILLTURN_GetRotaryXYFeedMove()

x_angle	
Mill Job	Outputs the rotation angle from wrapping blocks using the prefix defined on post question: 684 for X axis and 685 for Y axis.

y_angle	
Mill Job	Outputs the rotation angle from wrapping blocks using the prefix defined on post question: 684 for X axis and 685 for Y axis.

rotary_xy_angle	
Mill Job	Outputs the rotation angle from wrapping blocks using the prefix defined on post question: 690 for X axis wrapping and post question 694 for Y axis wrapping.
Mill Turn Job	This variable has been replaced by *p_rot* and *s_rot* variables.

xr_angle	
Mill Job	Outputs rotation angle from wrapping blocks using prefix from post question: 690
Mill Turn Job	This variable has been replaced by *p_rot* and *s_rot* variables.

yr_angle	
Mill Job	Outputs rotation angle from wrapping blocks using prefix from post question: 694
Mill Turn Job	This variable has been replaced by *p_rot* and *s_rot* variables.

measure_mode	
Mill Job	Outputs the string based on the mode (Inch/Metric). Strings defined on post questions: 614 (Inch) and post question: 615 (Metric). API:

	short MILL_GetUnits() Returns the current unit setting 0= Inch 1= Metric
Mill Turn Job	Outputs the string based on the mode (Inch/Metric). Strings defined on post questions: 614 (Inch) and post question: 615 (Metric). API: Use Mill API call.

LATHE_GetUnits()–API Only	
Lathe Job	Returns the current unit setting 0 = Inch 1 = Metric API: short LATHE_GetUnits()

movement_mode	
Mill Job	Outputs the string based on the current mode (Absolute/Incremental). The output strings are defined on post question: 620(Abs) and post question: 621(Inc). API: short MILL_GetIsIncremental()
Mill Turn Job	Outputs the string based on the current mode (Absolute/Incremental). The output strings are defined on post question: 620(Abs) and post question: 621(Inc). API: Use Mill API call.

xcenter	
Mill Job	Outputs the arc center X coordinate value using the prefix from post question: 642 API: double MILL_GetArcCenterX()
Mill Turn Job	Outputs the arc center X coordinate value using the prefix from post question: 642 API: Use Mill API Call

ycenter	
Mill Job	Outputs the arc center Y coordinate value using the prefix from post question: 643

	API: double MILL_GetArcCenterY()
Mill Turn Job	Outputs the arc center Y coordinate value using the prefix from post question: 643 API: Use Mill API Call

zcenter	
Mill Job	Outputs the arc center Z coordinate value using the prefix from post question: 640 API: double MILL_GetArcCenterZ()
Mill Turn Job	Outputs the arc center Z coordinate value using the prefix from post question: 640 API: Use Mill API Call

rcenter	
Mill Job	Outputs the arc center radius value using the prefix from post question: 641 API: double MILL_GetArcRadius()
Mill Turn Job	Outputs the arc center radius value using the prefix from post question: 641 API: double MILLTURN_GetRCenter()

arc_center	
Mill Job	Outputs the arc center value based on the current arc being cut using prefixes from post questions: 640 through post question: 643. API: double MILL_GetArcCenterX() double MILL_GetArcCenterY() double MILL_GetArcCenterZ()
Lathe Job	Outputs the arc center value based on the current arc being cut using prefixes from post questions: 640 and post question: 642. API: double LATHE_GetArcCenterX() double LATHE_GetArcCenterZ()
Mill Turn Job	Outputs the arc center value based on the current arc being cut using prefixes from post questions: 640 through post question: 643. API: Use Mill or Lathe API calls.

n	
Mill Job	Outputs the sequence numbers in the program.
Lathe Job	
Mill Turn Job	

n_forced	
Mill Job	Outputs the sequence number even if sequence number output has been turned off.
Lathe Job	Outputs the sequence number even if sequence number output has been turned off.
Mill Turn Job	Outputs the sequence number even if sequence number output has been turned off.

seq_only	
Mill Job	Outputs the sequence number with NO prefix
Mill Turn Job	

n_first_rough	
Lathe Job	Outputs the line number at the beginning of the profile that is used to define the canned roughing cycle. The prefix is defined on post question: 1790 API: string LATHE_GetFirstRoughLineNumberPrefix()
Mill Turn Job	Outputs the line number at the beginning of the profile that is used to define the canned roughing cycle. The prefix is defined on post question: 1790 API: Use Lathe API call

n_last_rough	
Lathe Job	Outputs the line number at the end of the profile that is used to define the canned roughing cycle. The prefix is defined on post question: 1791 API: string LATHE_GetLastRoughLineNumberPrefix()
Mill Turn Job	Outputs the line number at the end of the profile that is used to define the canned roughing cycle. The prefix is defined on post question: 1791 API: Use Lathe API call.

n_first_finish	
Lathe Job	Outputs the line number at the beginning of the profile that is used to define the canned finish cycle. The prefix is defined on post question: 1790 API: string LATHE_GetLineNumberFirstFinish()
Mill Turn Job	Outputs the line number at the beginning of the profile that is used to define the canned finish cycle. The prefix is defined on post question: 1790 API: Use Lathe API Call

LATHE_GetLineNumberFirstFinish()–API Only	
Mill Turn Job	Returns the P word for the first line number of turning canned cycle output to finish pass. API: short LATHE_GetLineNumberFirstFinish()
Lathe Job	

LATHE_GetFirstFinishLineNumberPrefix()–API Only	
Lathe Job	Returns the prefix string for the first line of a finish canned cycle. The prefix string is defined on post question: 1790. API: string LATHE_GetFirstFinishLineNumberPrefix()

n_last_finish	
Lathe Job	Outputs the line number at the end of the profile that is used to define the canned finish cycle. The prefix is defined on post question: 1791 API: string LATHE_GetLineNumberLastFinish() string LATHE GetLastFinishLineNumberPrefix()
Mill Turn Job	Outputs the line number at the end of the profile that is used to define the canned finish cycle. The prefix is defined on post question: 1791 API: Use Lathe API Call

LATHE_GetLineNumberLastFinish()–API Only	
Lathe Job	Returns the Q word for the last line number of turning canned cycle output to the finish pass. API: short LATHE_GetLineNumberLastFinish()

sub_call	
Mill Job	Outputs sub call string. String defined from post question: 628
Mill Turn Job	Outputs sub call string. String defined from post question: 628

sub_return	
Mill Job	Outputs sub return string. String defined from post question: 629
Mill Turn Job	Outputs sub return string. String defined from post question: 629

sub_num	
Mill Job	Outputs sub program number with prefix defined from post question :658
Mill Turn Job	Outputs sub program number with prefix defined from post question :658

sub_num_no_prefix	
Mill Job	Outputs sub program number without prefix
Mill Turn Job	Outputs sub program number without prefix API: string MILLTURN_GetSubProgramNumber()

sub_num_with_prefix	
Mill Job	Outputs the sub program number with prefix defined on post question: 645 API: string MILL_GetSubProgramNumberWithPrefix()
Mill Turn Job	Outputs sub program number with prefix defined on post question: 645 API: string MILLTURN_GetSubProgramNumberWithPrefix()

Transform Plane

initial_positioning	
Mill Job	This variable should be utilized in the Milling tool change blocks to call the 30 or 31 block based on whether the operation is utilizing a transform block. If the operation is not utilizing the transform plane, block 30 will be output. If the operation is under an index system, and using the transform plane, the 31 transform plane block will be output.
Mill Turn Job	

transform_plane_origin_1	
Mill Job	Outputs the coordinate of the origin for the transformed plane from the machine setup position along the first translation axis (Typically the X axis origin)
Mill Turn Job	

transform_plane_origin_2	
Mill Job	Outputs the coordinate of the origin for the transformed plane from the machine setup position along the second translation axis (Typically the Y axis origin)
Mill Turn Job	

transform_plane_origin_3	
Mill Job	Outputs the coordinate of the origin for the transformed plane from the machine setup position along the third translation axis (Typically the Z axis origin)
Mill Turn Job	

xr_transform	
Mill Job	Outputs the X axis rapid location on the transformed plane with the prefix defined by post question: 684 This variable should be used in block 31 to output coordinates relative to the transformed plane
Mill Turn Job	

yr_transform	
Mill Job	Outputs the Y axis rapid location on the transformed plane with the prefix defined by post question: 685 This variable should be used in block 31 to output coordinates relative to the transformed plane
Mill Turn Job	

zr_transform	
Mill Job	Outputs the Z axis rapid location on the transformed plane with the prefix defined by post question: 686 This variable should be used in block 31 to output coordinates relative to the transformed plane
Mill Turn Job	

transform_plane_rot_angle_first	
Mill Job Mill Turn Job	Outputs first rotary angle for the operations on the transform plane

transform_plane_rot_angle_second	
Mill Job Mill Turn Job	Outputs second rotary angle for the operations on the transform plane

transform_plane_rot_angle_third	
Mill Job Mill Turn Job	Outputs third rotary angle for the operations on the transform plane

euler_angle_zxz_intrinsic_1 euler_angle_zxz_intrinsic_2 euler_angle_zxz_intrinsic_3	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup Z axis first, then around X axis of the rotated coordinate system resulted from first rotation & finally around Z axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

euler_angle_zxz_extrinsic_1 euler_angle_zxz_extrinsic_2 euler_angle_zxz_extrinsic_3	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around the machine setup Z axis first, X axis & Z axis again for the transformed plane

euler_angle_xyx_intrinsic_1 euler_angle_xyx_intrinsic_2 euler_angle_xyx_intrinsic_3	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup X axis first, then around Y axis of the rotated coordinate system resulted from first rotation & finally around X axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

euler_angle_xyx_extrinsic_1 **euler_angle_xyx_extrinsic_2** **euler_angle_xyx_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around X axis, Y axis, X axis respectively of the machine setup for the transformed plane

euler_angle_yzy_intrinsic_1 **euler_angle_yzy_intrinsic_2** **euler_angle_yzy_intrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup Y axis first, then around Z axis of the rotated coordinate system resulted from first rotation & finally around Y axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

euler_angle_yzy_extrinsic_1 **euler_angle_yzy_extrinsic_2** **euler_angle_yzy_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around Y axis, Z axis, Y axis respectively of the machine setup for the transformed plane

euler_angle_zyz_intrinsic_1 **euler_angle_zyz_intrinsic_2** **euler_angle_zyz_intrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup Z axis first, then around Y axis of the rotated coordinate system resulted from first rotation & finally around Z axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

euler_angle_zyz_extrinsic_1 **euler_angle_zyz_extrinsic_2** **euler_angle_zyz_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around Z axis, Y axis, Z axis respectively of the machine setup for the transformed plane

euler_angle_xzx_intrinsic_1 **euler_angle_xzx_intrinsic_2** **euler_angle_xzx_intrinsic_3**	
Mill Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup X axis first, then around Z axis of the rotated coordinate system resulted from first rotation & finally around X axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

euler_angle_xzx_extrinsic_1 **euler_angle_xzx_extrinsic_2** **euler_angle_xzx_extrinsic_3**	
Mill Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around X axis, Z axis, X axis respectively of the machine setup for the transformed plane
Mill Turn Job	

euler_angle_yxy_intrinsic_1 **euler_angle_yxy_intrinsic_2** **euler_angle_yxy_intrinsic_3**	
Mill Job	Outputs the rotation angles for Euler angle definition by intrinsic rotation around machine setup Y axis first, then around X axis of the rotated coordinate system resulted from first rotation & finally around Y axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

euler_angle_yxy_extrinsic_1 **euler_angle_yxy_extrinsic_2** **euler_angle_yxy_extrinsic_3**	
Mill Job	Outputs the rotation angles for Euler angle definition by extrinsic rotation around Y axis, X axis, Y axis respectively of the machine setup for the transformed plane
Mill Turn Job	

rpy_angle_xyz_intrinsic_1 **rpy_angle_xyz_intrinsic_2** **rpy_angle_xyz_intrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup X axis first, then around Y axis of the rotated coordinate system resulted from first rotation & finally around Z axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

rpy_angle_xyz_extrinsic_1 **rpy_angle_xyz_extrinsic_2** **rpy_angle_xyz_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around X axis, Y axis, Z axis respectively of the machine setup for the transformed plane

rpy_angle_yzx_intrinsic_1 **rpy_angle_yzx_intrinsic_2** **rpy_angle_yzx_intrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup Y axis first, then around Z axis of the rotated coordinate system resulted from first rotation & finally around X axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

rpy_angle_yzx_extrinsic_1 **rpy_angle_yzx_extrinsic_2** **rpy_angle_yzx_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around Y axis, Z axis, X axis respectively of the machine setup for the transformed plane

rpy_angle_zxy_intrinsic_1 **rpy_angle_zxy_intrinsic_2** **rpy_angle_zxy_intrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup Z axis first, then around X axis of the rotated coordinate system resulted from first rotation & finally around Y axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane

rpy_angle_zxy_extrinsic_1 **rpy_angle_zxy_extrinsic_2** **rpy_angle_zxy_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around Z axis, X axis, Y axis respectively of the machine setup for the transformed plane

rpy_angle_xzy_intrinsic_1 **rpy_angle_xzy_intrinsic_2** **rpy_angle_xzy_intrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup X axis first, then around Z axis of the rotated coordinate system resulted from first rotation & finally around Y axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

rpy_angle_xzy_extrinsic_1 **rpy_angle_xzy_extrinsic_2** **rpy_angle_xzy_extrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around X axis, Z axis, Y axis respectively of the machine setup for the transformed plane
Mill Turn Job	

rpy_angle_zyx_intrinsic_1 **rpy_angle_zyx_intrinsic_2** **rpy_angle_zyx_intrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup Z axis first, then around Y axis of the rotated coordinate system resulted from first rotation & finally around X axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

rpy_angle_zyx_extrinsic_1 **rpy_angle_zyx_extrinsic_2** **rpy_angle_zyx_extrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around Z axis, Y axis, X axis respectively of the machine setup for the transformed plane
Mill Turn Job	

rpy_angle_yxz_intrinsic_1 **rpy_angle_yxz_intrinsic_2** **rpy_angle_yxz_intrinsic_3**	
Mill Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by intrinsic rotation around machine setup Y axis first, then around X axis of the rotated coordinate system resulted from first rotation & finally around Z axis of the rotated coordinate system resulted from the second rotation respectively for the transformed plane
Mill Turn Job	

rpy_angle_yxz_extrinsic_1 **rpy_angle_yxz_extrinsic_2** **rpy_angle_yxz_extrinsic_3**	
Mill Job Mill Turn Job	Outputs the rotation angles for Roll Pitch Yaw angle definition by extrinsic rotation around Y axis, X axis, Z axis respectively of the machine setup for the transformed plane

transform_plane_dir_x_1 **transform_plane_dir_x_2** **transform_plane_dir_x_3**	
Mill Job Mill Turn Job	Outputs the first vector I,J,K for the transform plane when using 2 vectors definition for transform planes

transform_plane_dir_z_1 **transform_plane_dir_z_2** **transform_plane_dir_z_3**	
Mill Job Mill Turn Job	Outputs the second vector I,J,K for the transform plane when using 2 vectors definition for transform planes

transform_plane_pnt_2_1 **transform_plane_pnt_2_2** **transform_plane_pnt_2_3**	
Mill Job Mill Turn Job	Outputs X,Y,Z coordinates along the X axis of the transformed plane relative to the origin of the machine setup. Note: The transform_plane_origin_# variables are typically used for the first point of the 3 point transform plane output.

transform_plane_pnt_3_1 **transform_plane_pnt_3_2** **transform_plane_pnt_3_3**	
Mill Job Mill Turn Job	Outputs X,Y,Z coordinates along the Y axis of the transformed plane relative to the origin of the machine setup

transform_plane_projection_angle_x_along_y transform_plane_projection_angle_y_along_x transform_plane_projection_angle_along_new_z	
Mill Job	Outputs the angle of rotation for X axis of transformed plane along machine setup Y-axis, Y axis of transformed plane along X axis of the machine setup and angle of rotation about the Z axis of the rotated coordinate system
Mill Turn Job	

transform_plane_orientation_x transform_plane_orientation_y transform_plane_orientation_z	
Mill Job	Outputs the I,J,K values for the Z axis of the transformed plane
Mill Turn Job	

GetDoubleOfPostVariable()–API Only	
Mill Job	Used to return the value of the transform plane related variables only. API: GetDoubleOfPostVariable("variable_name") Example : GetDoubleOfPostVariable("euler_angle_intrinsic_zxz_1")
Mill Turn Job	

Comments

operation_name_comment	
Mill Job	Outputs the name of the operation in the CAM tree using the comment_start and comment_end characters defined on post question: 630 and post question: 631. API: string MILL_GetOperationNameComment()
Lathe Job	Outputs the name of the operation in the CAM tree using the comment_start and comment_end characters defined on post question: 630 and post question: 631.
Mill Turn Job	Outputs the name of the operation in the CAM tree using the comment_start and comment_end characters defined on post question: 630 and post question: 631. API: string MILLTURN_GetOperationNameComment()

feature_name_comment	
Mill Job	Outputs the name of the feature in the CAM tree using the comment_start and comment_end characters defined on post question: 630 and post question: 631. API: string MILL_GetFeatureNameComment()
Mill Turn Job	Outputs the name of the feature in the CAM tree using the comment_start and

	comment_end characters defined on post question: 630 and post question: 631. API: string MILLTURN_GetFeatureNameComment()

comment_start (start_comment – Lathe Job)	
Mill Job	Outputs the string character uses to start a comment. String is defined on post question: 630
Lathe Job	Variable: start_comment – Outputs the string character defined for the beginning of a comment. Characters defined on post question: 630
Mill Turn Job	Outputs the string character uses to start a comment. String is defined on post question: 630

comment_end (end_comment – Lathe Job)	
Mill Job	Outputs the string character uses to end a comment. String is defined on post question: 631
Lathe Job	Variable: end_comment – Outputs the string character defined for the end of a comment. Characters defined on post question: 631
Mill Turn Job	Outputs the string character uses to end a comment. String is defined on post question: 631

system_comment (comment1 – Lathe Job)	
Mill Job	Outputs a combination of the Machine Setup name and the Feature Name on the same line using the start_comment and end_comment strings.
Lathe Job	Variable: comment1 – Outputs a combination of the Machine Setup name and the Feature Name on the same line using the start_comment and end_comment strings.
Mill Turn Job	Outputs a combination of the Machine Setup name and the Feature Name on the same line using the start_comment and end_comment strings.

sub_comment	
Mill Job	Outputs the subprogram description comment API: string MILL_GetSubComment()
Mill Turn Job	Outputs the subprogram description comment API: string MILLTURN_GetSubComment()

output_date	
Mill Job	Outputs the date
Lathe Job	
Mill Turn Job	

LATHE_GetDate – API Only	
Lathe Job	Returns the day and date. API: string LATHE_GetDate()
Mill Turn Job	

output_time	
Mill Job	Outputs the time
Lathe Job	
Mill Turn Job	

prog_n	
Mill Job	Outputs the program number with NO prefix API: string MILL_GetProgramNumber()
Lathe Job	Outputs the program number with NO prefix API: short LATHE_GetProgramNumber()
Mill Turn Job	Outputs the program number with NO prefix() API: string MILLTURN_GetProgramNumber()

prog_name	
Mill Job	Outputs the program name with no file path but does include the file extension. API: string MILL_GetProgramName()
Lathe Job	Outputs the program name with no file path but does include the file extension. API: string LATHE_GetProgramName()
Mill Turn Job	Outputs the program name with no file path but does include the file extension. API: string MILLTURN_GetProgramName()
Note:	While the Post Variable outputs the program name and file extension, it does not output the full file path. The API, however, outputs the file extension and the full file path.

prog_name_no_ext	
Mill Job	Outputs the program name with file path, but NO file extension. API: string MILL_GetProgramNameNoExt()
Mill Turn Job	Outputs the program name with file path, but NO file extension. API: string MILLTURN_GetProgramNameNoExt()

prog_name_no_ext_no_path	
Mill Job	Outputs the program name without file path and file extension. API: string MILL_GetProgramNameNoExtNoPath()
Mill Turn Job	

prog_name_no_path	
Mill Job	Outputs the program name with extension, but NO file path. API: string BC_GetProgramNameNoPath()
Mill Turn Job	

prog_name_full_path	
Mill Job	Outputs the program name with file path and file extension. API: string BC_GetProgramNameFullPath()
Mill Turn Job	

document_name	
Mill Job	Outputs the document name with file extension. NOTE – a bbcd file has to be saved first to get the document name, otherwise no name will be output in the posted code
Lathe Job	
Mill Turn Job	

document_name_no_ext	
Mill Job	Outputs the document name with full file path and no file extension. NOTE – a bbcd file has to be saved first to get the document name, otherwise no name will be output in the posted code
Lathe Job	
Mill Turn Job	

document_name_no_ext_no_path	
Mill Job	Outputs just the document name only. NOTE – a bbcd file has to be saved first to get the document name, otherwise no name will be output in the posted code
Lathe Job	
Mill Turn Job	

document_name_full_path	
Mill Job	Outputs the document name with extension and full file path. NOTE – a bbcd file has to be saved first to get the document name, otherwise no name will be output in the posted code
Lathe Job	
Mill Turn Job	

job_name	
Mill Job	Outputs the job name only.
Lathe Job	
Mill Turn Job	

machine_make	
Mill Job	Outputs the machine make defined on post question: 646
Lathe Job	
Mill Turn Job	

machine_model	
Mill Job	Outputs the machine model defined on post question: 647
Lathe Job	
Mill Turn Job	

feature_name	
Mill Job	Outputs the name of the feature with no comment start/end strings
Lathe Job	
Mill Turn Job	

setup_name	
Mill Job	Outputs the name of the setup with no comment start/end strings
Lathe Job	
Mill Turn Job	

operation_name	
Mill Job	Outputs the name of the operation with no comment start/end strings
Lathe Job	
Mill Turn Job	

comment1	
Lathe Job	Outputs the Machine Setup comment and the first operation comment. See Also: system_comment API: string LATHE_GetComment1()
Mill Turn Job	Outputs the Machine Setup comment and the first operation comment. See Also: system_comment API: string MILLTURN_GetComment1()

comment2	
Lathe Job	Outputs the tool number plus the tool label API: string LATHE_GetComment2()
Mill Turn Job	Outputs the tool number plus the tool label API: string MILLTURN_GetComment2()

comment3	
Lathe Job	Outputs the operation comment API: string LATHE_GetComment3()

Mill Turn Job	API: string MILLTURN_GetComment3()

user_comment_1 through user_comment_15	
Mill Job	Outputs the user comments defined in the Current Settings for the job.
Lathe Job	
Mill Turn Job	

material_comment	
Mill Job	Outputs the defined material as a string. API: string MILLTURN_GetMaterialComment()
Lathe Job	
Mill Turn Job	

Stock

stock_min_x	
Mill Job	Returns the X coordinate for the bottom left hand corner of the stock with NO prefix. API: double MILL_GetStockMinX()
Mill Turn Job	Returns the X coordinate for the bottom left hand corner of the stock with NO prefix. API: double MILLTURN_GetStockMinX()

stock_min_y	
Mill Job	Returns the Y coordinate of the lower edge of the stock with NO prefix API: double MILL_GetStockMinY()
Mill Turn Job	Returns the Y coordinate of the lower edge of the stock with NO prefix API: double MILLTURN_GetStockMinY()

stock_min_z	
Mill Job	Returns the Z coordinate of the bottom of the stock with NO prefix API: double MILL_GetStockMinZ()
Mill Turn Job	Returns the Z coordinate of the bottom of the stock with NO prefix

	API: double MILLTURN_GetStockMinZ()

stock_max_x	
Mill Job	Returns the X coordinate for the top right hand corner of the stock with NO prefix. API: double MILL_GetStockMaxX()
Mill Turn Job	Returns the X coordinate for the top right hand corner of the stock with NO prefix. API: double MILLTURN_GetStockMaxX()

stock_max_y	
Mill Job	Returns the Y coordinate of the top right hand corner of the stock with NO prefix API: double MILL_GetStockMaxY()
Mill Turn Job	Returns the Y coordinate of the top right hand corner of the stock with NO prefix API: double MILLTURN_GetStockMaxY()

stock_max_z	
Mill Job	Returns the Z coordinate of the top right hand corner of the stock with NO prefix API: double MILL_GetStockMaxZ()
Mill Turn Job	Returns the Z coordinate of the right hand corner of the stock with NO prefix API: double MILLTURN_GetStockMaxZ()

stock_length	
Mill Job	Outputs the X dimension of the stock with NO prefix
Lathe Job	Outputs the length of the stock(Z axis) with NO prefix
Mill Turn Job	Outputs the X dimension of the stock with NO prefix

stock_width	
Mill Job	Outputs the Y dimension of the stock with NO prefix
Mill Turn Job	

stock_height	
Mill Job	Outputs the Z dimension of the stock with NO prefix
Mill Turn Job	

rotary_stock_diameter	
Mill Job	Returns the wrapping stock diameter with prefix. The prefix is defined on post question: 703 API: double MILL_GetRotaryStockDiameter()
Mill Turn Job	

rotary_stock_length	
Mill Job	Returns the length of the stock with prefix. The prefix is defined on post question: 704 API: double MILL_GetRotaryStockLength()
Mill Turn Job	

rotation_axis	
Mill Job	Outputs rotation axis with the prefix defined on post question: 702 API: double MILL_GetRotaryAxis()
Mill Turn Job	

output_stock_definition (output_stock in Lathe job)	
Mill Job	Outputs the stock definition blocks 108 and 109 based on the stock type.
Lathe Job	Outputs the stock definition block 1111.
Mill Turn Job	Outputs the stock definition blocks 108 and 109 based on the stock type.

mtool_angle	
Mill Job	Outputs the tool angle with prefix. The prefix is defined on post question: 699
Mill Turn Job	

mtool_corner_rad	
Mill Job	Outputs the tool corner radius value with prefix. The prefix is defined on post question: 700
Mill Turn Job	

mtool_type	
Mill Job	Outputs the tool type with prefix. The prefix is defined on post question: 701
Mill Turn Job	

tool_label	
Mill Job	Outputs the tool label. API: string MILL_GetToolLabel()
Mill Turn Job	Outputs the tool label. API: string MILLTURN_GetToolLabel()

MILL_GetNextToolLabel()- API only	
Mill Job	Outputs the next tool label. API: string MILL_GetNextToolLabel()
Mill Turn Job	

block_delete (start_add_block_delete in Lathe job)	
Mill Job	Outputs the block delete characters. The block delete characters that are output are defined on post question: 656
Lathe Job	Variable used: start_add_block_delete – This variable marks the beginning of outputting the block delete characters. The block delete characters that is output is defined on post question: 656 To end the output of the block delete character use the stop_add_block_delete variable.
Mill Turn Job	Outputs the block delete characters. The block delete characters that are output are defined on post question: 656

LATHE_SetStockPosZ(*double var*)–API Only	
Mill Turn Job	Sets the Z axis stock position. API: LATHE_SetStockPosZ(*variable_name*)
Lathe Job	

LATHE_SetStockPosX(*double var*)–API Only	
Mill Turn Job	Sets the X axis stock position. API: LATHE_SetStockPosX(*variable_name*)
Lathe Job	

LATHE_GetStockPosZ()–API Only	
Mill Turn Job	Returns the Z axis stock position. API: double LATHE_GetStockPosZ()
Lathe Job	

LATHE_GetStockPosX()–API Only	
Mill Turn Job	Returns the X axis stock position. API: double LATHE_GetStockPosX()
Lathe Job	

LATHE_SetStockFeedToZ(*double var*)–API Only	
Mill Turn Job	Sets the stock feed to Z value API: LATHE_SetStockFeedToZ(*variable_name*)
Lathe Job	

LATHE_GetStockFeedToZ()–API Only	
Mill Turn Job	Returns the Z axis stock feed to position. API: double LATHE_GetStockFeedToZ()
Lathe Job	

LATHE_GetStockLength()–API Only	
Mill Turn Job	Returns the length of the currently defined stock. API: double LATHE_GetStockLength()
Lathe Job	

LATHE_GetStockInternalDiameter()–API Only	
Mill Turn Job	Returns the internal diameter of the currently defined stock. API: double LATHE_GetStockInternalDiameter()
Lathe Job	

LATHE_GetStockFaceZLocation()–API Only	
Mill Turn Job	Returns the Z axis position of the stock face. API: double LATHE_GetStockFaceZLocation()
Lathe Job	

LATHE_GetStockEndZLocation()–API Only	
Mill Turn Job	Returns the Z axis position of the end of the stock. API: double LATHE_GetStockEndZLocation()
Lathe Job	

LATHE_GetStockDiameter()–API Only	
Mill Turn Job	Returns the diameter of the stock. API: double LATHE_GetStockDiameter()
Lathe Job	

G Codes

feed_move	
Mill Job	Outputs the code for move at feedrate. String defined on post question: 681
Lathe Job	Outputs the code for move at feedrate. String defined on post question: 681
Mill Turn Job	Outputs the code for move at feedrate. String defined on post question: 681

rapid_move	
Mill Job	Outputs the code for move at rapid. String defined on post question: 680
Lathe Job	Outputs the code for move at rapid. String defined on post question: 680
Mill Turn Job	Outputs the code for move at rapid. String defined on post question: 680

feed_move_forced	
Mill Job	Forces the output of the code for move at feedrate.
Lathe Job	
Mill Turn Job	

rapid_move_forced	
Mill Job	Forces the output of the code for move at rapid.
Lathe Job	
Mill Turn Job	

cc	
Mill Job	Outputs call to post block 11, 12 or 13 depending on the cutter compensation state. (11=OFF, 12=Left, 13=Right) API: short MILL_GetOffsetSide() 0 = None 1 = Left 2 = Right
Lathe Job	Outputs call to post block 11, 12 or 13 depending on the cutter compensation state. (11=OFF, 12=Left, 13=Right) API: short LATHE_GetCutterCompSide() 0 = None 41 = Left 42 = Right
Mill Turn Job	Outputs call to post block 11, 12 or 13 depending on the cutter compensation state. (11=OFF, 12=Left, 13=Right) API: short MILLTURN_GetOffsetSide() 0 = None 1 = Left 2 = Right

force_cc	
Mill Job	Forces the output of the *cc* variable.
Mill Turn Job	

g_code_cc	
Lathe Job	Outputs cutter diameter compensation codes based on compensation state. Codes are defined on post questions: 650=Left, 651=Right, 639=Off.
Mill Turn Job	Outputs cutter diameter compensation codes based on compensation state. Codes are defined on post questions: 750=Left, 751=Right, 739=Off.

Measurement	
Mill Job	Outputs blocks depending on current Inch/Metric mode. Blocks defined on 614=Inch, 615=Metric
Mill Turn Job	

mt_output_rad_dia	
Mill Turn Job	Outupts the currently set mode Radius or Diameter based on post question: 1249. If set to Radius mode the string from post question: 3561 will be output. If set to Diameter mode the string from post question: 3562 will be output. API: string MILLTURN_GetMtOutputRadDia()

g_arc_move	
Mill Job	Outputs the arc strings based on the arc direction. Strings from post questions: 682=CW, and 683=CCW.
Lathe Job	Outputs the arc strings based on direction. Strings from post questions: 682=CW, and 683=CCW
Mill Turn Job	Outputs the arc strings based on the arc direction. Strings from post questions: 682=CW, and 683=CCW.

rigid_tapping_start	
Mill Job	Outputs the post block 22 which is used to output the code that puts the machine in feed per revolution mode.
Lathe Job	Outputs the post block 1027 which is used to output the code that puts the machine in feed per revolution mode.
Mill Turn Job	Outputs the post block 22 which is used to output the code that puts the machine in feed per revolution mode.

rigid_tapping_end	
Mill Job	Outputs the post block 23 which is used to output the code that puts the machine in feed per minute mode.
Lathe Job	Outputs the post block 1028 which is used to output the code that puts the machine in feed per minute mode.
Mill Turn Job	Outputs the post block 23 which is used to output the code that puts the machine in feed per minute mode.

cross_rigid_tapping_start	
Mill Turn Job	Outputs the post block 3020 if the post question: 3509 is set to Yes. These blocks are used to put the machine in feed per revolution mode for the cross live tools.

cross_rigid_tapping_end	
Mill Turn Job	Outputs the post block 3021 if the post question: 3509 is set to Yes. These blocks are used to put the machine in feed per revolution mode for the cross live tools.

g_arc_plane	
Mill Job	Outputs the strings from post question: 691=XY, 692=YZ, and 693=XZ based on the

Mill Turn Job	active plane.

initialize_gcode	
Mill Job Mill Turn Job	Restarts modality rule and forces the output of the next gcode.

work_plane	
Mill Job Lathe job Mill Turn Job	Outputs the active work plane (XY, YZ, XZ) G-code for the current operation from post questions 691, 692, 693 respectively. This variable can be used for machines which required to know the work plane in which the current operation is executed. Typically used in block 2,3,4 in Mill & MillTurn posts, 1002,1003,1004 for lathe posts and polar start and end blocks (3005, 3006) for MillTurn posts

work_plane_G17	
Mill Job Lathe Job Mill Turn Job	Outputs the XY work plane G-code for the current operation from post questions 691.

work_plane_G18	
Mill Job Lathe Job Mill Turn Job	Outputs the XZ work plane G-code for the current operation from post questions 692.

work_plane_G19	
Mill Job Lathe Job Mill Turn Job	Outputs the YZ work plane G-code for the current operation from post questions 693.

g_max_ss	
Mill Turn Job	Outputs the code used to set the maximum spindle speed clamp. The output string is defined on post question: 3577 API: string MILLTURN_GetMaxSSGCode()

g_exact_stop	
Mill Turn Job	Outputs the string that is used to put the machine in exact stop mode. The output string is defined on post question: 3578 API: string MILLTURN_GetExactStop()

g_exact_stop_modal_on	
Mill Turn Job	Outputs the string that is used to turn on exact stop mode on the machine. This is a modal variable. The string is defined on post question: 3579. API: string MILLTURN_GetExactStopModalOn()

g_exact_stop_modal_off	
Mill Turn Job	Outputs the string that is used to turn off exact stop mode on the machine. This is a modal variable. The string is defined on post question: 3580. API: string MILLTURN_GetExactStopModalOff()

g_balance_cut_on	
Mill Turn Job	Outputs the string that defines turning ON balance cutting mode on the machine. The output string is defined on post question: 3581. API: string MILLTURN_GetBalanceCutOn()

g_balance_cut_off	
Mill Turn Job	Outputs the string that defines turning OFF balance cutting mode on the machine. The output string is defined on post question: 3582. API: string MILLTURN_GetBalanceCutOff()

g_finish_cycle_code	
Lathe Job	Outputs the string that defines the code used to activate a Lathe Finish Canned cycle. The string is defined on post question: 1870. API: string MILLTURN_GetFinishCycleCode()
Mill Turn Job	

g_rough_cycle_code	
Mill Turn Job	Outputs the string that defines the code used to activate a Lathe Roughing Canned cycle. The string that is output depends on if the cycle is OD or Facing. The OD string that is output is defined on post question: 1871 The Face string that is output is defined on post question: 1872 API: string MILLTURN_GetRoughCycleCode()

g_pattern_repeat_code	
Mill Turn Job	Outputs the string that defines the pattern repeat cycle on the machine. The output string is defined on post question: 1873 API: string MILLTURN_GetPatternRepeatCode()

g_groove_cycle_code	
Mill Turn Job	Outputs the string that defines the grooving cycle on the machine. The code that is output depends on if the cycle is OD or Face orientation. OD/ID code is defined on post question: 1875 Face code is defined on post question: 1874 API: string MILLTURN_GetGrooveCycleCode()

g_thread_cycle_code	
Mill Turn Job	Outputs the string that turns on the thread cutting cycle on the machine. The code that is output depends on if the cycle is OD or Face orientation. OD/ID code is defined on post question: 1876 Face code is defined on post question: 1877 API: string MILLTURN_GetThreadCycleCode()

M Codes

end_of_file	
Mill Job Mill Turn Job	Outputs the string that defines the end of file to the machine. The string is defined on post question: 625.

stop	
Mill Job	Outputs the string that defines a stop to the machine. The string is defined on post question: 626
Lathe Job	Outputs the string that defines a stop to the machine. The string is defined on post question: 626
Mill Turn Job	Outputs the string that defines a stop to the machine. The string is defined on post question: 626

optional_stop	
Mill Turn Job	Outputs the string that defines an optional stop to the machine. The string is defined on post question: 627

spindle_on	
Mill Job	Outputs the spindle ON string based on the current Forwar/Reverse state. The strings output are defined on post question: 670=Forward, and post question: 671=Reverse.
Lathe Job	Outputs the spindle ON string based on the current Forward/Reverse state. The strings output are defined on post question: 670=Forward, and post question: 671=Reverse. API: string LATHE_GetSpindleOn()
Mill Turn Job	Outputs the spindle ON string based on the currently active Workpiece device and the Forward/Reverse state. Each Workpiece device has spindle codes that are used for Forward, Reverse, and OFF. The post questions for these codes are as follows: • 10x02 = Forward Code • 10x03 = OFF Code • 10x04 = Reverse Code

spindle_off	
Mill Job	Outputs the string to turn off the spindle. The string output is defined on post question: 671.
Lathe Job	Outputs the spindle OFF string. The output string is defined on post question: 672 API: string LATHE_GetSpindleOff()
Mill Turn Job	Outputs the spindle OFF string based on the currently active Workpiece device. Each Workpiece device has spindle codes that are used for Forward, Reverse, and OFF. The post questions for these codes are as follows: • 10x02 = Forward Code • 10x03 = OFF Code • 10x04 = Reverse Code •

live_spindle_on	
Mill Turn Job	Outputs the spindle ON Forward, OFF, and ON Reverse strings. The system will output the spindle strings based on the active Tool device. Each Tool device has spindle codes that are used. The post questions for these string codes are as follows: • 20x02 = ON Forward Code • 20x03 = OFF Code • 20x04 = ON Reverse Code API: string MILLTURN_GetLiveSpindleOn()

live_spindle_off	
Mill Turn Job	Outputs the spindle OFF string. The system will output the spindle string based on the active Tool device. Each Tool device has spindle codes that are used. The post questions for these string codes are as follows: • 20x02 = ON Forward Code • 20x03 = OFF Code • 20x04 = ON Reverse Code API: string MILLTURN_GetLiveSpindleOff()

live_spindle_on_forward	
Mill Turn Job	Outputs the spindle ON Forward string. The system will output the spindle string based on the active Tool device. Each Tool device has spindle codes that are used. The post questions for these string codes are as follows: • 20x02 = ON Forward Code • 20x03 = OFF Code • 20x04 = ON Reverse Code API: string MILLTURN_GetLiveSpindleOnForward()

live_spindle_on_reverse	
Mill Turn Job	Outputs the spindle ON Forward string. The system will output the spindle string based on the active Tool device. Each Tool device has spindle codes that are used. The post questions for these string codes are as follows: • 20x02 = ON Forward Code • 20x03 = OFF Code • 20x04 = ON Reverse Code API: string MILLTURN_GetLiveSpindleOnReverse()

Coolant Codes

coolant_on	
Mill Job	Outputs the coolant ON string. The strings output are as follows: • 673 = Flood • 706 = Mist • 707 = Air • 708 = Oil
Lathe Job	Outputs the coolant ON string. The string is defined on post question: 673
Mill Turn Job	Outputs the coolant ON string. The string that is output is dependent of the active

	toolpiece device. Each toolpiece device has coolant codes for each of the coolant types. The codes are as follows: • 20x10 = Coolant 1 ON • 20x11 = Coolant 2 ON • 20x12 = Coolant 3 ON • 20x13 = Coolant 4 ON • 20x14 = Coolant OFF

coolant_off	
Mill Job	Outputs the coolant OFF string. The string is defined on post question: 674
Lathe Job	Outputs the coolant OFF string. The string is defined on post question: 674
Mill Turn Job	Outputs the coolant OFF string. The string that is output is dependent of the active toolpiece device. The post question defining the coolant OFF code is: • 20x14 = Coolant OFF

LATHE_GetIsCoolantOn()–API Only	
Mill Turn Job	Returns the current coolant state API: short LATHE_GetIsCoolantOn()
Lathe Job	

LATHE_GetCoolantOn()–API Only	
Mill Turn Job	Returns the coolant ON string API: string LATHE_GetCoolantOn()
Lathe Job	

LATHE_GetCoolantOff()–API Only	
Mill Turn Job	Returns the coolant OFF string API: string LATHE_GetCoolantOff()
Lathe Job	

coolant_on_1	
Mill Job	Outputs the coolant ON string for the first coolant option. The string is defined on post question: 840
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the first coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x40

coolant_on_2	
Mill Job	Outputs the coolant ON string for the second coolant option. The string is defined on post question: 841
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the second coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x41

coolant_on_3	
Mill Job	Outputs the coolant ON string for the third coolant option. The string is defined on post question: 842
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the third coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x42

coolant_on_4	
Mill Job	Outputs the coolant ON string for the fourth coolant option. The string is defined on post question: 843
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the fourth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x43

coolant_on_5	
Mill Job	Outputs the coolant ON string for the fifth coolant option. The string is defined on post question: 844
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the fifth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x44

coolant_on_6	
Mill Job	Outputs the coolant ON string for the sixth coolant option. The string is defined on post question: 845
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the sixth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x45

coolant_on_7	
Mill Job	Outputs the coolant ON string for the seventh coolant option. The string is defined on post question: 846
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the seventh coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x46

coolant_on_8	
Mill Job	Outputs the coolant ON string for the eighth coolant option. The string is defined on post question: 847
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the eighth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x47

coolant_on_9	
Mill Job	Outputs the coolant ON string for the ninth coolant option. The string is defined on post question: 848
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the ninth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x48

coolant_on_10	
Mill Job	Outputs the coolant ON string for the tenth coolant option. The string is defined on post question: 849
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the tenth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x49

coolant_off_1	
Mill Job	Outputs the coolant OFF string for the first coolant option. The string is defined on post question: 850
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the first coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x50

coolant_off_2	
Mill Job	Outputs the coolant OFF string for the second coolant option. The string is defined on post question: 851
Lathe Job	
Mill Turn Job	Outputs the coolant OFF string for the second coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x51

coolant_off_3	
Mill Job	Outputs the coolant OFF string for the third coolant option. The string is defined on post question: 852
Lathe Job	
Mill Turn Job	Outputs the coolant OFF string for the third coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x52

coolant_off_4	
Mill Job	Outputs the coolant OFF string for the fourth coolant option. The string is defined on post question: 853
Lathe Job	
Mill Turn Job	Outputs the coolant ON string for the fourth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x53

coolant_off_5	
Mill Job	Outputs the coolant OFF string for the fifth coolant option. The string is defined on post question: 854
Lathe Job	
Mill Turn Job	Outputs the coolant OFF string for the fifth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x54

coolant_off_6	
Mill Job Lathe Job	Outputs the coolant OFF string for the sixth coolant option. The string is defined on post question: 855
Mill Turn Job	Outputs the coolant OFF string for the sixth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x55

coolant_off_7	
Mill Job Lathe Job	Outputs the coolant OFF string for the seventh coolant option. The string is defined on post question: 856
Mill Turn Job	Outputs the coolant OFF string for the seventh coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x56

coolant_off_8	
Mill Job Lathe Job	Outputs the coolant OFF string for the eighth coolant option. The string is defined on post question: 857
Mill Turn Job	Outputs the coolant OFF string for the eighth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x57

coolant_off_9	
Mill Job Lathe Job	Outputs the coolant OFF string for the ninth coolant option. The string is defined on post question: 858
Mill Turn Job	Outputs the coolant OFF string for the ninth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x58

coolant_off_10	
Mill Job Lathe Job	Outputs the coolant OFF string for the tenth coolant option. The string is defined on post question: 859
Mill Turn Job	Outputs the coolant OFF string for the tenth coolant option. The string that is output is dependent of the active toolpiece device in post questions : 20x59

Canned Cycles

profile_start_x	
Lathe Job	Outputs the canned turning cycle starting X position with prefix. The prefix string is defined on post question: 684 API: double LATHE_GetProfileStartX()
Mill Turn Job	Outputs the canned turning cycle starting X position with prefix. The prefix string is defined on post question: 1801 API: double MILLTURN_GetProfileStartX()

profile_start_z	
Lathe Job	Outputs the canned turning cycle starting Z position with prefix. The prefix string is defined on post question: 686 API: double LATHE_GetProfileStartZ()
Mill Turn Job	Outputs the canned turning cycle starting Z position with prefix. The prefix string is defined on post question: 1803 API: double MILLTURN_GetProfileStartZ()

profile_end_x	
Lathe Job	Outputs the canned turning cycle ending X position with prefix. The prefix string is defined on post question: 684 API: double LATHE_GetProfileEndX()
Mill Turn Job	Outputs the canned turning cycle ending X position with prefix. The prefix string is defined on post question: 1801 API: double MILLTURN_GetProfileEndX()

profile_end_z	
Lathe Job	Outputs the canned turning cycle ending Z position with prefix. The prefix string is defined on post question: 686 API: double LATHE_GetProfileEndZ()
Mill Turn Job	Outputs the canned turning cycle ending Z position with prefix. The prefix string is defined on post question: 1803 API: double MILLTURN_GetProfileEndZ()

profile_end_x_top_of_thread	
Mill Turn Job	Outputs the canned threading cycle ending X position with prefix. The prefix string is defined on post question: 1801. This variable will output the X dimension without the thread depth being taken into account. API: double MILLTURN_GetProfileEndXTopOfThread()

g_canned_cycle	
Mill Job	Outputs the string defining the currently used cycle. The strings used are defined on post questions: 800 through 831.
Lathe Job	Outputs the string defining the currently used cycle. The strings used are defined on post questions: 1850 through 1868.
Mill Turn Job	Outputs the string defining the currently used cycle. The strings used are defined on post questions: 800 through 831.

cancel_drill_cycle	
Mill Job	Outputs the string that defines the Canned Cycle Cancel to the machine. The string output is defined on post question: 679
Mill Turn Job	Outputs the string that defines the Canned Cycle Cancel code to the machine. There are several Cancel codes that will be used. Output is determined by the current drilling mode(Mill, Lathe, or Cross Drilling). The strings output are defined as follows: • Mill Drill Cycle Cancel – 679 • Lathe Drill Cycle Cancel - 679 • Cross Drill Cycle Cancel - 3518

g98_g99 (Canned drilling reference return)	
Mill Job	Outputs the current defined string based on post questions: 516 and 515. The output strings are defined on post questions: 727 and 728.
Lathe Job	Outputs the current defined string based on post questions: 516 and 515. The output strings are defined on post questions: 727 and 728.
Mill Turn Job	Mill(Face with Live Tooling) and Lathe(Face with Static Tooling) will output the currently defined string based on post questions: 515 and 516. The strings output are defined on post questions: 727 and 728. Cross Drilling will output the currently defined string based on post questions: 3513 and 3512. The strings output are defined on post questions: 3525 and 3526.

drill_depth	
Mill Job	Outputs the drill depth with prefix. The prefix is defined on post question: 677 API: double MILL_GetDrillDepth()
Lathe Job	Outputs the drill depth with prefix. The prefix is defined on post question: 1844
Mill Turn Job	Outputs the drill depth with prefix. The prefix is defined as the following: • Mill Operation(Face) – 677 • Mill Operation(Cross – 3517 • Lathe Operation(Face) - 1844

drill_depth_no_prefix	
Mill Turn Job	Outputs the drill depth with NO prefix.

z_drill	
Mill Job	Outputs the Z axis position at the depth of the hole. The prefix is defined on post question: 677 API: double MILL_GetDrillZ()
Mill Turn Job	Outputs the Z axis position at the depth of the hole. The prefix is defined on post question: 677 API: double MILLTURN_GetDrillZ()

z_drill_no_prefix	
Mill Job	Outputs the Z axis position at the depth of the hole with NO prefix. API: double MILL_GetDrillZ()
Mill Turn Job	Outputs the Z axis position at the depth of the hole with NO prefix API: double MILLTURN_GetDrillZ()

abs_drill_depth	
Mill Job	Outputs the absolute value of the drilling depth with prefix. The prefix is defined on post question: 677 API: double MILL_GetAbsDrillDepth()
Mill Turn Job	Outputs the absolute value of the drilling depth with prefix. The prefix used depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 677 • Lathe (Face with Static Tooling) = Prefix defined on post question: 677 • Mill (Cross Drill with Live Tooling) = Prefix defined on post question: 3517 API: double MILLTURN_GetAbsDrillDepth()

reference_plane	
Mill Job	Outputs the value for the reference plane with prefix. The prefix is defined on post question: 649 API: double MILL_GetReferencPlaneHeight()
Lathe Job	Outputs the value for the reference plane with prefix. The prefix is defined on post

	question: 1849
Mill Turn Job	Outputs the value for the reference plane with prefix. The prefix used for output depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 649 • Lathe (Face with Static Tooling) = Prefix defined on post question: 649 • Mill (Cross with Live Tooling) = Prefix defined on post question: 3514 API: double MILLTURN_GetReferencPlaneHeight()

initial_plane	
Mill Job	Outputs the value for the initial plane with prefix. The prefix is defined on post question: 689 API: double MILL_GetInitialPlaneHeight()
Lathe Job	Outputs the value for the initial plane with prefix. The prefix is defined on post question: 1846
Mill Turn Job	Outputs the value for the initial plane with prefix. The prefixes used for output depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 689 • Lathe (Face with Static Tooling) = Prefix defined on post question: 846 • Mill (Cross with Live Tooling) = Prefix defined on post question: 3520 API: double MILLTURN_GetInitialPlaneHeight()

canned_feed_rate	
Mill Job	Outputs the value of the canned cycle feedrate with prefix. The prefix is defined on post question: 687 API: double MILL_GetCannedCycleFeedRate()
Lathe Job	Outputs the value of the canned cycle feedrate with prefix. The prefix is defined on post question: 1845
Mill Turn Job	Outputs the value of the canned cycle feedrate with prefix. The prefix used for output depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 687 • Lathe (Face with Static Tooling) = Prefix defined on post question: 1845 • Mill (Cross with Live Tooling) = Prefix defined on post question: 3519 API: double MILLTURN_GetCannedCycleFeedRate()

peck_drill_increment	
Mill Job	Outputs the value of the peck drilling increment with prefix. The prefix is defined on post question: 676 API: double MILL_GetPeckDrillIncrement()
Lathe Job	Outputs the value of the peck drilling increment with prefix. The prefix is defined on post question: 1842
Mill Turn Job	Outputs the value of the peck drilling increment with prefix. The prefix used for output depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 676 • Lathe (Face with Static Tooling) = Prefix defined on post question: 1842 • Mill (Cross with Live Tooling) = Prefix defined on post question: 3516 API: double MILLTURN_GetPeckDrillIncrement()

peck_increment	
Lathe Job	Outputs the value of the peck drilling increment with prefix. The prefix is defined on post question: 1842 API: double LATHE_GetPeckIncrement()
Mill Turn Job	Outputs the value of the peck drilling increment with prefix. The prefix used for output depends on the orientation of the drilling operation. The prefixes are defined as follows: • Mill (Face with Live Tooling) = Prefix defined on post question: 676 • Lathe (Face with Static Tooling) = Prefix defined on post question: 1842 • Mill (Cross with Live Tooling) = Prefix defined on post question: 3516 API: double MILLTURN_GetPeckIncrement()

dwell	
Mill Job	Outputs the dwell value with prefix. The prefix is defined on post question: 607 API: double MILL_GetDwell()
Lathe Job	Outputs the dwell value with prefix. The prefix is defined on post question: 1847 API: short LATHE_GetDrillDwell()
Mill Turn Job	Outputs the dwell value with prefix. The prefix output depends on the operation type. • Mill (Face and Cross drilling with Live Tooling) = 607

	• Lathe (Face drilling with Static Tooling) = 1847 API: double MILLTURN_GetDwell()

gdwell	
Mill Turn Job	Outputs the string defined for the Dwell code. The output string is defined on post question: 655 API: double MILLTURN_GetGDwell()

dwell_milliseconds	
Mill Job	Outputs the dwell value with prefix. The prefix is defined on post question: 607
Mill Turn Job	API: short MILL_GetDwellMilliseconds()

inc_z_depth	
Mill Job	Outputs the incremental Z depth value with prefix. The prefix is defined on post question: 677
Mill Turn Job	Outputs the incremental Z depth value with prefix. The prefix output depends on the type and orientation of the operation. • Mill (Face with Live Tooling) = 677 • Lathe (Face with Static Tooling) = 677 • Mill (Cross with Live Tooling) = 3515

first_peck_drill_increment	
Mill Job	Outputs the value for the first peck drill increment with prefix. The prefix is defined on post question: 675. API: double MILL_GetPeckDrillFirstPeckAmount()
Lathe Job	Outputs the value for the first peck drill increment with prefix. The prefix is defined on post question: 1841.
Mill Turn Job	Outputs the value for the first peck drill increment with prefix. The prefix output depends on the type and orientation of the operation. • Mill (Face with Live Tooling) = 675 • Lathe (Face with Static Tooling) = 841 • Mill (Cross with Live Tooling) = 3515 API: double MILLTURN_GetFirstPieckDrillIncrement()

drill_clearance (Legacy Variable: z_clearance)	
Mill Job	Outputs the Z axis position of the defined clearance in the Machine Setup with prefix. The prefix is defined on post question: 686. API: double MILL_GetClearanceZ()
Mill Turn Job	Outputs the clearance position along the tool axis. The clearance position is defined in the Machine Setup. This value is output with a prefix. The prefix is mapped to the appropriate axis in the Prefix Mapping tables. API: double MILLTURN_GetDrillClearance()

drill_clearance_no_prefix	
Mill Job	Outputs the Z axis position of the defined clearance in the Machine Setup with NO prefix. API: double MILL_GetClearanceZ()
Mill Turn Job	Outputs the clearance position along the tool axis. The clearance position is defined in the Machine Setup. This value is output with NO prefix. API: double MILLTURN_GetDrillClearance()

rough_x_allowance (deprecated)	
(deprecated – used in v28 or previous)	
Lathe Job	Outputs the roughing canned cycle X axis allowance value with prefix. The prefix is defined on post question: 1805 API: double LATHE_GetRoughXAllowance()
Mill Turn Job	Outputs the roughing canned cycle X axis allowance value with prefix. The prefix is defined on post question: 1805 API: double MILLTURN_GetRoughXAllowance()

rough_cycle_rough_x_allowance	
Lathe Job	Outputs the roughing canned cycle X axis allowance value with prefix. The prefix is defined on post question: 1880 API: double LATHE_GetRoughCycleRoughXAllowance()
Mill Turn Job	

rough_cycle_finish_x_allowance	
Lathe Job	Outputs the roughing and finish canned cycle X axis finish allowance value with prefix. The prefix is defined on post question: 1882 API: double LATHE_GetRoughCycleFinishXAllowance()
Mill Turn Job	

rough_z_allowance (deprecated)	
(deprecated – used in v28 or previous)	
Lathe Job	Outputs the roughing canned cycle Z axis allowance value with prefix. The prefix is defined on post question: 1806 API: double LATHE_GetRoughZAllowance()
Mill Turn Job	Outputs the roughing canned cycle Z axis allowance value with prefix. The prefix is defined on post question: 1806 API: double MILLTURN_GetRoughZAllowance()

rough_cycle_rough_z_allowance	
Lathe Job	Outputs the roughing canned cycle Z axis allowance value with prefix. The prefix is defined on post question: 1881 API: double LATHE_GetRoughCycleRoughZAllowance()
Mill Turn Job	

rough_cycle_finish_z_allowance	
Lathe Job	Outputs the roughing and finish canned cycle Z axis finish allowance value with prefix. The prefix is defined on post question: 1883 API: double LATHE_GetRoughCycleFinishZAllowance()
Mill Turn Job	

rough_depth_of_cut	
Lathe Job	Outputs the roughing canned cycle depth of cut value with prefix. The prefix is defined on post question: 1804 API: double LATHE_GetRoughDepthOfCut()
Mill Turn Job	Outputs the roughing canned cycle depth of cut value with prefix. The prefix is defined on post question: 1804 API:

	double MILLTURN_GetRoughDepthOfCut()

rough_depth_of_cut_two_line	
Lathe Job	Outputs the roughing canned cycle depth of cut value needed for two line format with prefix. The prefix is defined on post question: 1804
Mill Turn Job	Outputs the roughing canned cycle depth of cut value needed for two line format with prefix. The prefix is defined on post question: 1804

rough_depth_of_cut_with_decimal	
Lathe Job	Outputs the depth of cut for the one line canned cycle format with decimal format and prefix. The prefix is defined on post question: 1804
Mill Turn Job	Outputs the depth of cut for the one line canned cycle format with decimal format and prefix. The prefix is defined on post question: 1804

rough_depth_of_cut_two_line_decimal	
Lathe Job	Outputs the depth of cut for the two line canned cycle format with decimal format and prefix. The prefix is defined on post question: 1804
Mill Turn Job	Outputs the depth of cut for the two line canned cycle format with decimal format and prefix. The prefix is defined on post question: 1804

rough_retract_amount	
Lathe Job	Outputs the roughing canned cycle retract amount defined on post question: 1411 with a prefix. The prefix is defined on post question: 1807 API: double LATHE_GetRoughRetractAmount()
Mill Turn Job	Outputs the roughing canned cycle retract amount defined on post question: 1411 with a prefix. The prefix is defined on post question: 1807

roughing_depth_of_cut_x	
Lathe Job	Outputs the roughing canned cycle depth of cut in the X axis with prefix. The prefix is defined on post question: 1823
Mill Turn Job	Outputs the roughing canned cycle depth of cut in the X axis with prefix. The prefix is defined on post question: 1823

roughing_depth_of_cut_z	
Lathe Job	Outputs the roughing canned cycle depth of cut in the Z axis with prefix. The prefix is defined on post question: 1824
Mill Turn Job	Outputs the roughing canned cycle depth of cut in the Z axis with prefix. The prefix is defined on post question: 1824

roughing_depth_of_cut_x_decimal	
Lathe Job	Outputs the roughing canned cycle depth of cut in the X axis with prefix with decimal

	format. The prefix is defined on post question: 1823
Mill Turn Job	Outputs the roughing canned cycle depth of cut in the X axis with prefix with decimal format. The prefix is defined on post question: 1823

roughing_depth_of_cut_z_decimal	
Lathe Job	Outputs the roughing canned cycle depth of cut in the Z axis with prefix with decimal format. The prefix is defined on post question: 1824
Mill Turn Job	Outputs the roughing canned cycle depth of cut in the Z axis with prefix with decimal format. The prefix is defined on post question: 1824

LATHE_GetIsRough()–API Only	
Mill Turn Job	Returns a value indicating if this current operation is a roughing operation or not. 0 = Not Rough 1 = Is Rough API: string LATHE_GetIsRough()
Lathe Job	

finish_x_spring_pass_stock_diameter	
Lathe Job	Outputs the value of the X axis spring pass. The value is output in diameter with prefix. The prefix is defined on post question: 1810 API: double LATHE_GetFinishXSpringPassStockDiameter()
Mill Turn Job	Outputs the value of the X axis spring pass. The value is output in diameter with prefix. The prefix is defined on post question: 1810 API: double MILLTURN_GetFinishXSpringPassStockDiameter()

finish_z_spring_pass_stock_diameter	
Lathe Job	Outputs the value of the Z axis spring pass with prefix. The prefix is defined on post question: 1811 API: double LATHE_GetFinishZSpringPassStockDiameter()
Mill Turn Job	Outputs the value of the Z axis spring pass with prefix. The prefix is defined on post question: 1811 API: double MILLTURN_GetFinishZSpringPassStockDiameter()

finish_x_allowance (deprecated)	
(deprecated – used in v28 or previous)	
Lathe Job	Outputs the value of the X axis allowance as diameter value with prefix. The prefix is defined on post question: 1808 API: double LATHE_GetXFinishAllowance()
Mill Turn Job	Outputs the value of the X axis allowance as diameter value with prefix. The prefix is defined on post question: 1808 API: double MILLTURN_GetXFinishAllowance()

finish_z_allowance (deprecated)	
(deprecated – used in v28 or previous)	
Lathe Job	Outputs the value of the Z axis allowance with prefix. The prefix is defined on post question: 1809 API: double LATHE_GetZFinishAllowance()
Mill Turn Job	Outputs the value of the Z axis allowance with prefix. The prefix is defined on post question: 1809 API: double MILLTURN_GetZFinishAllowance()

finish_number_of_cuts	
Lathe Job	Outputs the number of finish cuts with prefix. The prefix is fixed to the “D” character. This variable outputs the numbers of passes in pattern repeat cycle (Fanuc G73) as well the number of finish passes for the threading cycle API: short LATHE_GetFinishNumberOfCuts()
Mill Turn Job	Outputs the number of finish cuts with prefix. The prefix is fixed to the “D” character. This variable outputs the numbers of passes in pattern repeat cycle (Fanuc G73) as well the number of finish passes for the threading cycle API: short MILLTURN_GetFinishNumberOfCuts()

finish_x_spring_pass_stock_radius	
Lathe Job	Outputs the X axis radius value of the stock for finish operations with prefix. The prefix is defined on post question: 1810 API:

	double LATHE_GetFinishXSpringPassStockRadius()
Mill Turn Job	Outputs the X axis radius value of the stock for finish operations with prefix. The prefix is defined on post question: 1810 API: double MILLTURN_GetFinishXSpringPassStockRadius()

finish_z_spring_pass_stock_radius	
Lathe Job	Outputs the Z axis value of the stock for finish operations with prefix. The prefix is defined on post question: 1811 API: double LATHE_GetFinishZSpringPassStockRadius()
Mill Turn Job	Outputs the Z axis value of the stock for finish operations with prefix. The prefix is defined on post question: 1811 API: double MILLTURN_GetFinishZSpringPassStockRadius()

finish_number_of_cuts_two_line	
Lathe Job	Outputs the number of finish cuts with prefix. The prefix is set to "R". API: short LATHE_GetFinishNumberOfCutsTwoLine()
Mill Turn Job	Outputs the number of finish cuts with prefix. The prefix is set to "R". API: short MILLTURN_GetFinishNumberOfCutsTwoLine()

LATHE_GetIsFinish()–API Only	
Mill Turn Job	Returns a value indicating if this current operation is a finishing operation or not. 0 = Not Finish 1 = Is Finish API: string LATHE_GetIsFinish()
Lathe Job	

pattern_repeat_depth_of_cut_x

Mill Turn Job	Returns the value calculated from the pattern repeat operation's X Stock / Number of Cuts. Prefix is defined on post question: 1884 API: double LATHE_GetPatternRepeatDepthOfCutX()
Lathe Job	

pattern_repeat_depth_of_cut_z	
Mill Turn Job	Returns the value calculated from the pattern repeat operation's Z Stock / Number of Cuts. Prefix is defined on post question: 1885 API: double LATHE_GetPatternRepeatDepthOfCutZ()
Lathe Job	

pattern_repeat_fagor_a	
Mill Turn Job	Returns the value to identify if the depth of cut is applied in the X or Z axis with prefix defined on post question: 1797 0 = Front Face / Back Face 1 = OD/ID API: short LATHE_GetPatternRepeatFagorA()
Lathe Job	

groove_x_bottom	
Lathe Job	Outputs the X axis value for the bottom of the groove with prefix. The prefix is defined on post question: 1813 API: double LATHE_GetGrooveXBottom()
Mill Turn Job	Outputs the X axis value for the bottom of the groove with prefix. The prefix is defined on post question: 1813 API: double MILLTURN_GetGrooveXBottom()

groove_z_bottom	
Lathe Job	Outputs the Z axis value for the bottom of the groove with prefix. The prefix is defined on post question: 1814 API: double LATHE_GetGrooveZBottom()
Mill Turn Job	Outputs the Z axis value for the bottom of the groove with prefix. The prefix is defined on post question: 1814

	API: double MILLTURN_GetGrooveZBottom()

groove_peck_increment	
Lathe Job	Outputs the peck increment for the groove with prefix. The prefix is defined on post question: 1816 API: double LATHE_GetGroovePeckIncrement()
Mill Turn Job	Outputs the peck increment for the groove with prefix. The prefix is defined on post question: 1816 API: double MILLTURN_GetGroovePeckIncrement()

groove_depth_of_cut	
Lathe Job	Outputs the depth of cut value for the groove with prefix. The prefix is defined on post question: 1815 API: double LATHE_GetGrooveDepthOfCut()
Mill Turn Job	Outputs the depth of cut value for the groove with prefix. The prefix is defined on post question: 1815 API: double MILLTURN_GetGrooveDepthOfCut()

groove_retract_amount	
Lathe Job	Outputs the retract amount for the groove cycle with prefix. The prefix is defined on post question: 1812 The value output is defined on post question: 1412 API: double LATHE_GetGrooveCycleRetract()
Mill Turn Job	Outputs the retract amount for the groove cycle with prefix. The prefix is defined on post question: 1812 The value output is defined on post question: 1412 API: double MILLTURN_GetGrooveDepthOfCut()

groove_rvalue	
Lathe Job	This variable outputs “R0.0000” only. This is typically used in two-line canned cycle format which denotes the relief amount at the end of the cut.
Mill Turn Job	

drill_dwell	
Lathe Job	Outputs the dwell value with prefix. The prefix is defined on post question: 1825. API: double LATHE_GetDrillDwell()
Mill Turn Job	Outputs the dwell value with prefix. The prefix is defined on post question: 1825. API: double MILLTURN_GetDrillDwell()

first_peck	
Lathe Job	Outputs the first peck value with prefix. The prefix is defined on post question: 1841. API: double LATHE_GetFirstPeck()
Mill Turn Job	Outputs the first peck value with prefix. The prefix is defined on post question: 1841. API: double MILLTURN_GetFirstPeck()

peck_clearance	
Lathe Job	Outputs the peck clearance value with the prefix defined on post question: 1826. API: double LATHE_GetPeckClearance()
Mill Turn Job	Outputs the peck clearance value with prefix. The prefix is defined on post question: 1826 API: double MILLTURN_GetPeckClearance()

peck_retract	
Lathe Job	Outputs the peck retract value with prefix. The prefix is defined on post question: 1827. API: double LATHE_GetPeckRetract()
Mill Turn Job	Outputs the peck retract value with prefix. The prefix is defined on post question: 1827 API: double MILLTURN_GetPeckRetract()

tap_g32_gcode	
Lathe Job Mill Turn Job	Outputs the string from post question 1821

tap_g32_final_z	
Lathe Job	Outputs the final Z axis position for the G32 tapping operation with prefix. The prefix is defined on post question: 686. API: double LATHE_GetTapG32FinalZ()
Mill Turn Job	Outputs the final Z axis position for the G32 tapping operation with prefix. The prefix is defined on post question: 1803.

LATHE_GetTapCannedFinialZ()–API Only	
Mill Turn Job	Returns the Z axis Final Z position for a canned tapping cycle. API: string LATHE_GetTapCannedFinalZ()
Lathe Job	

tap_g32_initial_z	
Lathe Job	Outputs the initial Z axis position for the G32 tapping operation with prefix. The prefix is defined on post question: 686. API: double LATHE_GetTapG32InitialZ()
Mill Turn Job	Outputs the initial Z axis position for the G32 tapping operation with prefix. The prefix is defined on post question: 1803.

tap_canned_gcode	
Lathe Job	Outputs the string for left or right hand tapping based on the operation parameters. The outputs strings are defined on post questions: • Right Hand Tapping = 1765 • Left Hand Tapping = 1766
Mill Turn Job	Outputs the string for left or right hand tapping based on the operation parameters. The outputs strings are defined on post questions: • Right Hand Tapping = 1765 • Left Hand Tapping = 1766

tap_canned_gcode_right	
Lathe Job	Outputs the string for right hand tapping. The output string is defined on post question: 1765
Mill Turn Job	Outputs the string for right hand tapping. The output string is defined on post question: 1765

tap_canned_gcode_left	
Lathe Job	Outputs the string for left hand tapping. The output string is defined on post question: 1766
Mill Turn Job	Outputs the string for left hand tapping. The output string is defined on post question: 1766

tap_reference_plane	
Lathe Job	Outputs the tap reference plane value in decimal format with prefix. The prefix is defined on post question: 1820
Mill Turn Job	Outputs the tap reference plane value in decimal format with prefix. The prefix is defined on post question: 1820

tap_canned_final_z	
Lathe Job	Outputs the tap final Z depth in decimal format with prefix. The prefix is defined on post question: 686
Mill Turn Job	Outputs the tap final Z depth in decimal format with prefix. The prefix is defined on post question: 1803

tap_canned_x	
Lathe Job	Outputs the tap X value with prefix. The prefix is defined on post question: 684. With lathe operations this will always return a value of “0.000”
Mill Turn Job	Outputs the tap X value with prefix. The prefix is defined on post question: 1801.

LATHE_GetTapCannedX() - API Only	
Lathe Job	Returns the X axis position for a canned tapping cycle. API: double LATHE_GetTapCannedX()
Mill Turn Job	

rigid_tapping_start	
Lathe Job	Outputs a call to post block 1027. This is normally used to put the machine in feed per revolution mode.
Mill Turn Job	Outputs a call to post block 1027. This is normally used to put the machine in feed per revolution mode.

rigid_tapping_end	
Lathe Job	Outputs a call to post block 1028. This is normally used to put the machine in feed per minute mode.
Mill Turn Job	Outputs a call to post block 1028. This is normally used to put the machine in feed per minute mode.

tapping_feedrate (tap_feed in Lathe)	
Mill Job	Outputs the tapping feedrate with prefix. The prefix is defined on post question: 695 API: double MILL_GetTappingFeedRate()
Lathe Job	Outputs the tapping feedrate with prefix. The prefix is defined on post question: 1768 API: double LATHE_GetTapFeed()
Mill Turn Job	Outputs the tapping feedrate with prefix. The prefix output will be determined by the orientation and type of operation. The following determines the prefix output: • Mill (Face with Live Tooling) = Prefix defined on post question: 695 • Lathe (Face with Static Tooling) = Prefix defined on post question: 1305 • Mill (Cross with Live Tooling) = Prefix defined on post question 3521 API: double MILLTURN_GetTapFeed()

LATHE_GetTapThreadDirection()–API Only	
Mill Turn Job	Returns the value identifying the tap thread direction. 0 = Right Hand 1 = Left Hand API: string LATHE_GetTapThreadDirection()
Lathe Job	

tapping_spindle_speed	
Mill Job	Outputs the tapping spindle speed with prefix. The prefix is defined on post question: 696 API: double MILL_GetTappingSpindleSpeed()
Mill Turn Job	Outputs the tapping spindle speed with prefix. The prefix output will be determined by the orientation and type of operation. The following determines the prefix output: • Mill (Face and Cross with Live Tooling) = Prefix defined on post question: 696 • Lathe (Face with Static Tooling) = Prefix defined on post question: 1780

	API: double MILLTURN_GetTappingSpindleSpeed()

threads_per_inch	
Mill Job	Outputs the number of threads per inch in Inch mode and threads per millimeter in Metric mode with prefix. The prefix is defined on post question: 697 API: double MILL_GetThreadsPerInch()
Mill Turn Job	Outputs the number of threads per inch in Inch mode and threads per millimeter in Metric mode with prefix. The prefix is defined on post question: 697 API: double MILLTURN_GetThreadsPerInch()

thread_lead	
Mill Job	Outputs the pitch of the thread with prefix. The prefix is defined on post question: 698 API: double MILL_GetThreadsPitch()
Lathe Job	Outputs the lead of the thread with prefix. The prefix is defined on post question: 1705
Mill Turn Job	Outputs the pitch of the thread with prefix. The prefix is defined based on the orientation/type of operation. The prefix is output as follows: • Mill (Face and Cross with Live Tooling) = Prefix defined on post question: 698 • Lathe(Face with Static Tooling) = Prefix defined on post question: 705 API: double MILLTURN_GetThreadPitch()

thread_x2	
Lathe Job	Outputs the final X axis diameter value for the thread with prefix. The prefix is defined on post question: 684. API: double LATHE_GetThreadX2()
Mill Turn Job	Outputs the final X axis diameter value for the thread with prefix. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in the prefix blocks, then prefix specified in post question 684 will be used. API: double MILLTURN_GetThreadX2()

thread_z2	
Lathe Job	Outputs the final Z axis value for the thread with prefix. The prefix is defined on post

	question: 686. API: double LATHE_GetThreadZ2()
Mill Turn Job	Outputs the final Z axis value for the thread with prefix. The prefix mapping blocks are 5000 through 5049 for absolute, and 5050 through 5099 for incremental. If prefix is not defined in the prefix blocks, then prefix specified in post question 686 will be used. API: double MILLTURN_GetThreadZ2()

LATHE_GetThreadXMove()–API Only	
Lathe Job	Returns the value for the thread X move in a long hand threading cycle. This does not update with values when in a canned threading cycle. API: double LATHE_GetThreadXMove()

LATHE_GetThreadZMove()–API Only	
Lathe Job	Returns the value for the thread Z move in a long hand threading cycle. This does not update with values when in a canned threading cycle. API: double LATHE_GetThreadZMove()

thread_angle_out_start	
Lathe Job	Outputs the string value that defines the thread start angle. The output string is defined on post question: 1712.
Mill Turn Job	Outputs the string value that defines the thread start angle. The output string is defined on post question: 1712.

thread_angle_out_end	
Lathe Job	Outputs the string value that defines the thread end angle. The output string is defined on post question: 1713.
Mill Turn Job	Outputs the string value that defines the thread end angle. The output string is defined on post question: 1713.

LATHE_GetUseThreadAngleOut()–API Only	
Lathe Job	This returns a value based on the setting for the Canned Cycle Chamfer Cut option in the feature UI pages. 0 = OFF 1 = ON

	API: short LATHE_GetUseThreadAngleOut()

LATHE_GetThreadFeedRate()–API Only	
Lathe Job	Returns the value for the thread feedrate when the threading cycle type is set to separate moves. API: double LATHE_GetThreadFeedRate()

thread_height	
Lathe Job	Outputs the thread height value with prefix. The prefix is defined on post question: 1793. API: short LATHE_GetThreadHeight()
Mill Turn Job	Outputs the thread height value with prefix. The prefix is defined on post question: 1793. API: short MILLTURN_GetThreadHeight()

thread_height_decimal	
Lathe Job	Outputs the thread height value as decimal with prefix. The prefix is defined on post question: 1793. API: short LATHE_GetThreadHeight()
Mill Turn Job	Outputs the thread height value as decimal with prefix. The prefix is defined on post question: 1793. API: short MILLTURN_GetThreadHeight()

thread_first_cut	
Lathe Job	Outputs the thread first cut value with prefix. The prefix is defined on post question: 1792. API: double LATHE_GetThreadFirstCut()
Mill Turn Job	Outputs the thread first cut value with prefix. The prefix is defined on post question: 1792. API:

	double MILLTURN_GetThreadFirstCut()

thread_first_cut_decimal	
Lathe Job	Outputs the thread first cut value as decimal with prefix. The prefix is defined on post question: 1792.
Mill Turn Job	Outputs the thread first cut value as decimal with prefix. The prefix is defined on post question: 1792.

thread_lead	
Mill Job	Outputs the lead of the thread with prefix. The prefix is defined on post question: 698.
Lathe Job	Outputs the lead of the thread with prefix. The prefix is defined on post question: 1705. API: double LATHE_GetThreadLead()
Mill Turn Job	Outputs the lead of the thread with prefix. The prefix is defined on post question: 1705 API: double MILLTURN_GetThreadLead()

thread_angle_in	
Lathe Job	Outputs the angle in value for thread operations with prefix. The prefix is defined on post question: 1794. API: double LATHE_GetAngleIn()
Mill Turn Job	Outputs the angle in value for thread operations with prefix. The prefix is defined on post question: 1794. API: double MILLTURN_GetAngleIn()

thread_angle_in_decimal	
Lathe Job	Outputs the angle in value, as decimal, for thread operations with prefix. The prefix is defined on post question: 1794.
Mill Turn Job	Outputs the angle in value, as decimal, for thread operations with prefix. The prefix is defined on post question: 1794.

LATHE_GetThreadAngle()–API Only	
Lathe Job	This returns the angle (in degrees) of the line selected for the threading operation. API: double LATHE_GetThreadAngle()

thread_last_cut	
Lathe Job	Outputs the thread last cut amount with prefix. The prefix is defined on post question: 1795. API: double LATHE_GetThreadLastCut()
Mill Turn Job	Outputs the thread last cut amount with prefix. The prefix is defined on post question: 1795. API: double MILLTURN_GetThreadLastCut()

thread_machine_allowance	
Lathe Job	Outputs the thread machine allowance value with prefix. The prefix is defined on post question: 1796. The allowance value is defined on post question: 1413. API: double LATHE_GetThreadMachineAllowance()
Mill Turn Job	Outputs the thread machine allowance value with prefix. The prefix is defined on post question: 1796. The allowance value is defined on post question: 1413. API: double MILLTURN_GetThreadMachineAllowance()

thread_g33_gcode	
Lathe Job	Outputs the string used to put the machine in separate moves type threading mode. The string output is defined on post question: 680. API: string LATHE_GetG33GCode()
Mill Turn Job	Outputs the string used to put the machine in separate moves type threading mode. The string output is defined on post question: 1797. API: string MILLTURN_GetThreadG33GCode()

thread_g33_xmove	
Lathe Job	Outputs the X axis position of the G33 type threading cycle with prefix. The prefix is defined on post question: 684.
Mill Turn Job	Outputs the X axis position of the G33 type threading cycle with prefix. The prefix is defined on post question: 1801

thread_g33_zmove	
Lathe Job	Outputs the Z axis position of the G33 type threading cycle with prefix. The prefix is

	defined on post question: 686.
Mill Turn Job	Outputs the Z axis position of the G33 type threading cycle with prefix. The prefix is defined on post question: 1803

thread_g33_feedrate	
Lathe Job	Outputs the threading feedrate value with prefix. The prefix is defined on post question: 1707
Mill Turn Job	Outputs the threading feedrate value with prefix. The prefix is defined on post question: 1707

taper_height	
Lathe Job	Outputs the thread taper height with prefix. The prefix is defined on post question: 1817 API: double LATHE_GetTaperHeight()
Mill Turn Job	Outputs the thread taper height with prefix. The prefix is defined on post question: 1817

g_thread_face_code	
Mill Turn Job	Outputs the string defined for Lathe Face Threading cycles. The string output is defined on post question: 1877 API: string MILLTURN_GetThreadFaceCode()

g_thread_turn_code	
Mill Turn Job	Outputs the string defined for Lathe OD/ID Threading cycles. The string output is defined on post question: 1876 API: string MILLTURN_GetThreadTurnCode()

g_cancel_canned_cycle	
Mill Turn Job	Outputs the string defined for canceling Turning/Threading canned cycles. The output string is defined on post question: 1878 API: string MILLTURN_GetCancelCannedCycle()

heiden_ref_height	
Mill Job	Outputs the reference height for the Heidenhain machines with prefix. The prefix is set

	to “P01” API: double MILL_GetHeidenReferenceHeight()
Mill Turn Job	Outputs the reference height for the Heidenhain machines with prefix. The prefix is set to “P01” API: double MILLTURN_GetHeidenReferenceHeight()

heiden_depth	
Mill Job	Outputs the depth value for the Heidenhain machines with prefix. The prefix is set to “P02” API: double MILL_GetHeidenDepth()
Mill Turn Job	Outputs the depth value for the Heidenhain machines with prefix. The prefix is set to “P02” API: double MILLTURN_GetHeidenDepth()

heiden_peck_inc	
Mill Job	Outputs the peck increment value for the Heidenhain machines with prefix. The prefix is set to “P03” API: double MILL_GetHeidenPeckIncrement()
Mill Turn Job	Outputs the peck increment value for the Heidenhain machines with prefix. The prefix is set to “P03” API: double MILLTURN_GetHeidenPeckIncrement()

heiden_dwell	
Mill Job	Outputs the dwell value for the Heidenhain machines with prefix. The prefix is set to “P04” API: double MILL_GetHeidenDwell()
Mill Turn Job	Outputs the dwell value for the Heidenhain machines with prefix. The prefix is set to “P04” API:

	double MILLTURN_GetHeidenDwell()

heiden_plunge_rate	
Mill Job	Outputs the plunge feedrate with prefix. The prefix is set to “P05” API: double MILL_GetHeidenPlungeRate()
Mill Turn Job	Outputs the plunge feedrate with prefix. The prefix is set to “P05” API: double MILLTURN_GetHeidenPlungeRate()

Spindle Codes

s	
Mill Job	Outputs the spindle speed for milling with prefix. The prefix is defined on post question: 605. API: short MILL_GetSpindleSpeed()
Lathe Job	Outputs the spindle speed for turning with prefix. The prefix is defined on post question: 1780 API: short LATHE_GetFinishSpindleSpeed() short LATHE_GetCssRpm() short LATHE_GetFinishCssRpm()
Mill Turn Job	Outputs the spindle speed for the operation. The prefix output will depend on the operation being performed. The prefixes will be output as follows: • Mill (Live Tooling) = Prefix defined on post question: 605 • Lathe (Static Tooling) = Prefix defined on post question: 1780 API: short MILLTURN_GetSpindleSpeed()

LATHE_GetSpindleSpeedCode()–API Only	
Mill Turn Job	Returns the codes defined for CSS and RPM from post questions: 1785 = CSS Code 1786 = RPM Code API: string LATHE_GetSpindleSpeedCode()
Lathe Job	

LATHE_GetFinishSpindleSpeedCode()–API Only	
Mill Turn Job	Returns the codes defined for CSS and RPM from post questions: 1785 = CSS Code 1786 = RPM Code API: string LATHE_GetFinishSpindleSpeedCode()
Lathe Job	

sp_speed	
Mill Job	Outputs the spindle speed with NO prefix.
Mill Turn Job	

sp_on_css	
Lathe Job	Outputs the spindle ON code and the spindle speed value with prefix. The spindle ON code for CSS is defined on post question: 1785. The spindle speed value prefix is defined on post question: 1780.
Mill Turn Job	Outputs the spindle ON code and the spindle speed value with prefix. The spindle ON code comes from the active Workpiece device and is defined as follows: • 10x02 for forward • 10x04 for reverse The spindle speed prefix is defined on post question: 605 for Mill & 1780 for lathe tools

sp_on_rpm	
Lathe Job	Outputs the spindle ON code and the spindle speed value with prefix. The spindle ON code for RPM is defined on post question: 1786. The spindle speed value prefix is defined on post question: 1780.
Mill Turn Job	Outputs the spindle ON code and the spindle speed value with prefix. The spindle ON code comes from the active Workpiece device and is defined as follows: • 10x02 for forward • 10x04 for reverse The spindle speed prefix is defined on post question: 605 for Mill & 1780 for lathe tools

spsp_code	
Lathe Job	Outputs the code for RPM or CSS based on the active mode set in the operation. The RPM code is defined on post question: 1786. The CSS code is defined on post question: 1785.
Mill Turn Job	Outputs the code for RPM or CSS based on the active mode set in the operation. The RPM code is defined on post question: 1786. The CSS code is defined on post question: 1785.

finish_spsp_code (deprecated)	
Lathe Job	Outputs the spindle speed code for the finish cycle of an operation.

out_css_rpm	
Lathe Job	Outputs the spindle speed with prefix. The prefix is defined on post question: 1780 API: short LATHE_GetCssRpm()
Mill Turn Job	Outputs the spindle speed with prefix. The prefix is defined on post question: 605

out_finish_css_rpm (deprecated)	
Lathe Job	Outputs the finish pass spindle speed with prefix. The prefix is defined on post question: 1781 API: short LATHE_GetFinishSpindleSpeed()

smax	
Mill Job	Outputs the maximum spindle speed with prefix. The prefix is defined on post question: 605 API: short MILL_GetMaximumSpindleSpeed()
Lathe Job	Outputs the maximum spindle speed with prefix. The prefix is defined on post question: 1780 API: short LATHE_GetMaximumSpindleSpeed()
Mill Turn Job	Outputs the maximum spindle speed with prefix. The prefix output depends on the operation type. The prefix will be output as the following: • Mill(Live Tooling) = Prefix from post question: 605 • Lathe(Static Tooling) = 605 API: short MILLTURN_GetMaximumSpindleSpeed()

spindle_range	
Mill Job	Outputs the gear range string based on the current spindle speed and the high range speed defined on post question: 431. For speeds lower than the defined value the system calls post block 20. For speeds higher than the defined value the system calls post block 21.
Mill Turn Job	Outputs the gear range string based on the active Tool Device and the gear ranges defined on post questions: 20x20 through 20x24. The strings that are output are defined on post questions: 20x25 through 20x29.

spindle_gear	
Lathe Job	Outputs the gear range string based on the current spindle speed and the defined ranges on post questions: 1517 through 1526. The strings output are defined on post questions: 1831 through 1840. API: string LATHE_GetSpindleGear()
Mill Turn Job	Outputs the gear range string based on the current active Workpiece Device, spindle speed and the defined ranges on post questions: 10x24 through 10x33. The strings output are defined on post questions: 10x08 through 10x17.

null	
Mill Job	Outputs a Null character into the NC program
Mill Turn Job	

z_sp_speed	
Mill Job	Outputs the Z axis spindle speed with NO prefix.
Mill Turn Job	

z_s	
Mill Job	Outputs the Z axis spindle speed with NO prefix. The prefix is defined on post question: 605
Mill Turn Job	Outputs the Z axis spindle speed with prefix. The prefix is defined based on the active axis and the prefix mapping table in the post processor.

Spindle Mode – API Only	
Mill Turn Job	Used to determine if the spindle is in CSS or RPM mode. Return Values: 0 = CSS 1 = RPM API: short MILLTURN_GetSpindleMode()

LATHE_GetPosRpm ()–API Only	
Mill Turn Job	Get the value of the pos_rpm variable. API: short LATHE_GetPosRpm()
Lathe Job	

LATHE_GetPrevPosRpm ()–API Only	
Mill Turn Job	Get the previous value of the pos_rpm variable. API: short LATHE_GetPrevPosRpm()
Lathe Job	

Tool

t	
Mill Job	Outputs the tool number with the prefix that is set to “T”. Decimal places used for the output formatting is defined on post question: 215. API: short MILL_GetToolNumber()
Lathe Job	Outputs the tool number with prefix. The prefix is defined on post question: 1781. The number of places used for output is defined on post question: 1513 and the overall output format is defined on post question: 1512. Reference the Tool Format section of this document for the available options. NOTE: Only 1 through 5 are valid for Lathe Jobs. API: short LATHE_GetToolNumber()
Mill Turn Job	Outputs the tool number with the prefix that is set to “T”. The overall output format is defined on post question: 20x30 and 20x31. Reference the Tool Format section of this document for the available options. API: short MILLTURN_GetToolNumber()

t1	
Mill Job	Outputs the tool number with NO prefix. The decimal places used for the output formatting is defined on post question: 215
Lathe Job	Outputs the tool number with NO prefix. The number of decimal places used for output id defined on post question: 1513. The final output get the value from post question: 240 added to it. API: short LATHE_GetToolNumberT1()
Mill Turn Job	Outputs the tool number with NO prefix. The decimal places used for the output formatting is defined on post question: 215

t2	
Mill Job	Outputs the tool number with NO prefix. The decimal places used for output is defined on post question: 215
Lathe Job	Outputs the tool number with NO prefix. The decimal places used for output is defined on post question: 1513. The final output get the value from post question: 241 added to it. API: short LATHE_GetToolNumberT2()
Mill Turn Job	Outputs the tool number with NO prefix. The decimal places used for output is defined on post question: 215

f_tool (deprecated)	
Lathe Job	Outputs the finish tool number of a feature with prefix. The prefix is defined on post question: 1781 API: short LATHE_GetFinishToolNumber()
Mill Turn Job	

first_tool	
Mill Job	Outputs the first tool number with NO prefix. API: double MILL_GetFirstToolNumber()
Lathe Job	Outputs the first tool number with NO prefix. API: double LATHE_GetFirstToolNumber()
Mill Turn Job	Outputs the first tool number with NO prefix. API: double MILLTURN_GetFirstToolNumber()

first_tool_with_prefix	
Mill Job	Outputs the first tool number with prefix. The prefix is set to “T”.
Mill Turn Job	

next_tool	
Mill Job	Outputs the next tool number with NO prefix. API: double MILL_GetNextToolNumber()
Lathe Job	Outputs the next tool number with NO prefix.

	API: double LATHE_GetNextToolNumber()
Mill Turn Job	Outputs the first tool number with NO prefix. API: double MILLTURN_GetNextToolNumber()

next_tool_with_prefix	
Mill Job Mill Turn Job	Outputs the next tool number with prefix. The prefix is set to “T”.

tool_with_offset	
Mill Job Mill Turn Job	Outputs the current tool number with a space and then the offset number. The tool number prefix is set to the letter “T”. The offset has no prefix.

next_tool_with_offset	
Mill Job Mill Turn Job	Outputs the next tool number with a space and then the offset number. The tool number prefix is set to the letter “T”. The offset has no prefix.

toolchange_code	
Mill Turn Job	Outputs the string defined on post question: 654. This code defines the command used to initiate a tool change on the machine. This code will only be output if the active tool device post question 20x30 is set to a value of 7 or 8. API: string MILLTURN_GetToolchangeCode()

suffix_code	
Mill Turn Job	Returns the Suffix Code of the current tool with NO prefix. This is a string value with NO prefix commonly used for Mazak tool numbering. API: string MILLTURN_GetSuffixCode()

next_suffix_code	
Mill Turn Job	Returns the Suffix Code of the next tool with NO prefix. This is a string value with NO prefix commonly used for Mazak tool numbering. API: string MILLTURN_GetNextSuffixCode()

tool_orientation	
Mill Turn Job	Outputs the orientation number in a 2 digit format with NO prefix. Used for Mazak tool numbering. The value output comes from the Tool Orientation Mapping questions in the post (5200 through 5208). The output is determined by the settings defined in the **Tool Angle Control** dialog of the tool page when using a machine containing a Milling Spindle. API: string MILLTURN_GetToolOrientation() This returns the mapped string from 5200-5208 integer MILLTURN_GetToolOrientationIndex() This returns the orientation index value

LATHE_GetToolOrientation() – API Only	
Mill Turn Job	Returns the current tool orientation integer that is defined inside the operation on the tool page. This is NOT the Mounting Orientation from the tool crib!
Lathe Job	API: short LATHE_GetToolOrientation()

MILLTURN_GetToolMountingOrientation() – API Only	
Mill Turn Job	Returns the current tools mounting orientation integer from the tool crib. API: integer MILLTURN_GetToolMountingOrientation()

special	
Lathe Job	Returns the tool number formatted with the offset canceled (T0100) The prefix is defined on post question: 1781 API: string LATHE_GetSpecialToolNumber()
Mill Turn Job	Returns the tool number formatted with the offset canceled (T0100) The prefix is defined on post question: 1781 API: string MILLTURN_GetSpecialToolNumber()

f_special (deprecated)	
Lathe Job	Returns the tool number formatted with the offset canceled (T0100) The prefix is defined on post question: 1781 API:

	string LATHE_GetFinishSpecialToolNumber()
Mill Turn Job	Returns the tool number formatted with the offset canceled (T0100) The prefix is defined on post question: 1781 API: string MILLTURN_GetFinishSpecialToolNumber()

n_tool (deprecated)	
Lathe Job Mill Turn Job	Outputs the current line number

n_ftool (deprecated)	
Lathe Job Mill Turn Job	Outputs the current line number

p_tool_num	
Lathe Job Mill Turn Job	Outputs the tool number with NO prefix.

p_ftool_num (deprecated)	
Lathe Job Mill Turn Job	Outputs the tool number for finishing operation with NO prefix.

p_special	
Lathe Job Mill Turn Job	Outputs the tool number with a prefix defined on post question 1781.

list_tool_number	
Mill Job Mill Turn Job	Outputs the tool list number with NO prefix.

tool_diameter	
Mill Job	Outputs the value of the diameter of the milling tool with NO prefix. API: double MILL_GetToolDiameter()
Mill Turn Job	Outputs the value of the diameter of the milling tool with NO prefix. API: double MILLTURN_GetToolDiameter()

tool_radius	
Mill Job	Outputs the value of the radius of the milling tool with NO prefix. API: double MILL_GetToolRadius()
Mill Turn Job	Outputs the value of the of the milling tool with NO prefix. API: double MILLTURN_GetToolRadius()

tool_name	
Mill Job	Outputs the string containing the tool name. The names that are output are the tool types that can be seen in the tool crib. API: string MILL_GetToolName()
Mill Turn Job	Outputs the string containing the tool name. The names that are output are the tool types that can be seen in the tool crib. API: string MILLTURN_GetToolName()

tool_protrusion_length	
Mill Job	Outputs the protrusion length of the tool with NO prefix. API: double MILL_GetToolProtrusionLength()
Mill Turn Job	Outputs the protrusion length of the tool with NO prefix. API: double MILLTURN_GetToolProtrusionLength()

tool_length	
Mill Job	Outputs the length of the tool with NO prefix. API: double MILL_GetToolLength()
Mill Turn Job	Outputs the length of the tool with NO prefix. API: double MILLTURN_GetToolName()

Feed Rate

feed_rate	
Mill Job	Outputs the current feed rate value with prefix. The prefix is defined on post question: 606 API: double MILL_GetFeedRate()
Mill Turn Job	Outputs the current feed rate value with prefix. The prefix output depends on the orientation and type of operation. The prefix is defined as follows: • Mill UPM = Prefix from post question: 606 • Mill Inverse Time = Prefix from post question: 609 • Lathe UPM = Prefix from post question: 1707 • Lathe UPR = Prefix from post question: 1706 API: double MILLTURN_GetFeedRate()

f	
Mill Job	Outputs the current feed rate with prefix. The prefix is defined on post question: 606
Lathe Job	Outputs the current feedrate with prefix. The prefix is based on Feed Per Minute or Feed Per Revolution. The prefixes output are defined as follows: • Feed Per Revolution (FPR) = Post question: 1706 • Feed Per Minute (FPM) = Post question: 1707
Mill Turn Job	Outputs the current feed rate with prefix. The prefix is defined based on the orientation/type of operation. • Mill (Face and Cross Live Tooling) = Prefix from post question: 606 • Lathe (FPR) = Prefix from post question: 1706 • Lathe (FPM) = Prefix from post question: 1707

force_feed_rate_on	
Mill Job Mill Turn Job	This is a command that forces the output of the feed rate on lines following it's use.

force_feed_rate_off	
Mill Job Mill Turn Job	This is a command that suppresses the output of the feed rate on the line.

z_feed_rate	
Mill Job Mill Turn Job	Outputs the feedrate from post block 51 with a value representing the Z axis(Plunge) feedrate. The prefix output is defined on post question: 705

feed_mode_inv	
Mill Job Mill Turn Job	Outputs the string that defines Inverse Time feed mode on the machine. The string output is defined on post question: 714

feed_mode_upm	
Mill Job Mill Turn Job	Outputs the string that defines Unit Per Minute feed mode on the machine. The string output is defined on post question: 715

feed_mode_upr	
Mill Turn Job	Outputs the string that defines Unit Per Revolution feed mode on the machine. The string output is defined on post question: 729

feed_rate_upm	
Lathe Job	Outputs the feed rate for Unit per Minute with prefix string defined on post question 1707
Mill Turn Job	Outputs the feed rate for Unit Per Minute feed with prefix. The prefix string is defined based on operation type as follows: • Mill Operations = String defined on post question: 606 • Lathe Operation = String defined on post question: 1707 API: string MILLTURN_GetFeedRateUPM()

feed_rate_upr	
Mill Turn Job	Outputs the feed rate for Unit Per Revolution feed with prefix. The prefix string is defined based on operation type as follows: • Mill Operations = String defined on post question: 606 • Lathe Operation = String defined on post question: 1707 API: string MILLTURN_GetFeedRateUPR()

feed_mode	
Mill Job	Outputs the strings that will put the machine in Feed Per Minute or Inverse Time mode on the machine. The strings output depend on the current mode determined by the operation. The strings are defined as follows: • Unit Per Minute = String defined on post question: 715 • Inverse Time Feed = String defined on post question: 714 API: short MILL_Get_FeedMode() 0 = UPM 1 = Inverse Feed
Mill Turn Job	Outputs the strings that will put the machine in Feed Per Minute or Inverse Time mode on the machine. The strings output depend on the current mode determined by the operation. The strings are defined as follows: • Unit Per Minute = String defined on post question: 715

	• Inverse Time Feed = String defined on post question: 714 API: short MILLTURN_Get_FeedMode() 0 = UPM 1 = Inverse Feed

finish_feed (deprecated)	
Lathe Job	Outputs the current feedrate with prefix. The output depends on the active feed mode (Unit Per Minute or Unit Per Revolution). The prefix output is defined as follows: • Unit Per Minute = String defined on post question: 1707 • Unit Per Revolution = String defined on post question: 1706 API: string LATHE_GetFinishFeedRate()
Mill Turn Job	Outputs the current feedrate with prefix. The output depends on the active feed mode (Unit Per Minute or Unit Per Revolution). The prefix output is defined as follows: • Unit Per Minute = String defined on post question: 1707 • Unit Per Revolution = String defined on post question: 1706

rough_feed (deprecated)	
Lathe Job	Outputs the current feedrate with prefix. The output depends on the active feed mode (Unit Per Minute or Unit Per Revolution). The prefix output is defined as follows: • Unit Per Minute = String defined on post question: 1707 • Unit Per Revolution = String defined on post question: 1706 API: double LATHE_GetRoughFeedRate()
Mill Turn Job	Outputs the current feedrate with prefix. The output depends on the active feed mode (Unit Per Minute or Unit Per Revolution). The prefix output is defined as follows: • Unit Per Minute = String defined on post question: 1707 • Unit Per Revolution = String defined on post question: 1706

tap_feed_mode	
Lathe Job	Outputs the string defining the mode for the tapping cycle. The string output are as follows: • Feed Per Minute = String defined on post question: 715 • Feed Per Revolution = String defined on post question: 729 API: string LATHE_GetTapFeedMode()
Mill Turn Job	Outputs the string defining the mode for the tapping cycle. The string output are as follows: • Feed Per Minute = String defined on post question: 1763

	• Feed Per Revolution = String defined on post question: 1764 API: string MILLTURN_GetTapFeedMode()

LATHE_SetTapFeedMode(*short FeedMode*)–API Only	
Lathe Job	Sets the feed mode for the tapping cycle. Post question: 1305 is the default setting for the tap mode. 0 = Unit Per Minute 1 = Unit Per Revolution API: LATHE_SetTapFeedMode(*short FeedMode*)

LATHE_GetFinishFeedRate()–API Only	
Lathe Job	Returns the current finish feedrate. API: double LATHE_GetFinishFeedRate()

LATHE_GetFeedRate()–API Only	
Lathe Job	Returns the current feedrate. API: double LATHE_GetFeedRate()

Stock Feed Variables

init_stock_z	
Lathe Job	Outputs the initial Z axis position of the stock with a prefix for the stock feed operation. The prefix is defined on post question: 686
Mill Turn Job	Outputs the initial Z axis position of the stock with a prefix for the stock feed operation. The prefix is defined on post question: 1803

init_stock_x	
Lathe Job	Outputs the initial X axis position of the stock with a prefix for the stock feed operation. The prefix is defined on post question: 684
Mill Turn Job	Outputs the initial X axis position of the stock with a prefix for the stock feed operation. The prefix is defined on post question: 1801

stock_from_x	
Lathe Job	Outputs the value with the prefix from the stock feed operation for the X axis starting

	position. The prefix is defined on post question: 684
Mill Turn Job	Outputs the value with the prefix from the stock feed operation for the X axis starting position. The prefix is defined on post question: 1801

stock_from_z	
Lathe Job	Outputs the value with the prefix from the stock feed operation for the Z axis starting position. The prefix is defined on post question: 686
Mill Turn Job	Outputs the value with the prefix from the stock feed operation for the Z axis starting position. The prefix is defined on post question: 1803

stock_to_z	
Lathe Job	Outputs the value with the prefix from the stock feed operation for the Z axis ending position. The prefix is defined on post question: 686
Mill Turn Job	Outputs the value with the prefix from the stock feed operation for the Z axis ending position. The prefix is defined on post question: 1803

stock_feed_t	
Lathe Job	Outputs the tool value entered into the stock feed operation for the tool with prefix. The prefix is defined on post question: 1781
Mill Turn Job	Outputs the tool value entered into the stock feed operation for the tool with prefix. The prefix is defined on post question: 1781

stock_feedrate	
Lathe Job	Outputs the value entered for the feedrate into the stock feed operation.
Mill Turn Job	

stock_rapid_feedrate	
Lathe Job	Outputs the value entered for the rapid feedrate into the stock feed operation.
Mill Turn Job	

stock_zh	
Lathe Job	Outputs the value entered into the stock feed operation for the Z axis home with prefix. The prefix is defined on post question: 686.
Mill Turn Job	Outputs the value entered into the stock feed operation for the Z axis home with prefix. The prefix is defined on post question: 1803.

stock_xh	
Lathe Job	Outputs the value entered into the stock feed operation for the X axis home with prefix. The prefix is defined on post question: 684.
Mill Turn Job	Outputs the value entered into the stock feed operation for the X axis home with prefix. The prefix is defined on post question: 1801.

output_first_stock_feed	
Lathe Job	Command that must be located in the first tool change block to output the stock feed as the first operation in a program. If you do not have this variable in the previously defined blocks and the part program has the stock feed operation as the very first feature the NC output will not be correct.
Mill Turn Job	

rapid_to_pickup_z	
Lathe Job	Outputs the Z axis position for the Clamp position defined in the stock feed operation parameters. The prefix is defined on post question: 686
Mill Turn Job	Outputs the Z axis position for the Clamp position defined in the stock feed operation parameters. The prefix is defined on post question: 1803

rapid_to_position_x	
Lathe Job	Outputs the X axis position for the Clamp Position defined in the stock feed operation parameters. The prefix is defined on post question: 686
Mill Turn Job	Outputs the X axis position for the Clamp Position defined in the stock feed operation parameters. The prefix is defined on post question: 1803

rapid_to_position_z	
Lathe Job	Outputs the Z axis initial position defined in the stock feed operation. The prefix is defined on post question: 686
Mill Turn Job	Outputs the Z axis initial position defined in the stock feed operation. The prefix is defined on post question: 803

rapid_to_stock_feed_z	
Lathe Job	Outputs the Z axis end position defined in the stock feed operation. The prefix is defined on post question: 686
Mill Turn Job	Outputs the Z axis end position defined in the stock feed operation. The prefix is defined on post question: 1803

Stroke Limit

g_stroke_limit_on	
Mill Turn Job	Outputs the string that turns ON the Stroke Limit function on the machine's controller. The output string is defined on post question: 3569 API: string MILLTURN_GetStrokeLimitOn()

g_stroke_limit_off	
Mill Turn Job	Outputs the string that turns OFF the Stroke Limit function on the machine's controller. The output string is defined on post question: 3570 API: string MILLTURN_GetStrokeLimitOff()

stroke_limit_x	
Mill Turn Job	Outputs the value with prefix used to define the 1st point X position for the stroke limit. The prefix is defined on post question: 3571 API: string MILLTURN_GetStrokeLimitX()

stroke_limit_y	
Mill Turn Job	Outputs the value with prefix used to define the 1st point Y position for the stroke limit. The prefix is defined on post question: 3572 API: dtring MILLTURN_GetStrokeLimitY()

stroke_limit_z	
Mill Turn Job	Outputs the value with prefix used to define the 1st point Z position for the stroke limit. The prefix is defined on post question: 3573 API: string MILLTURN_GetStrokeLimitZ()

stroke_limit_i	
Mill Turn Job	Outputs the value with prefix used to define the 2nd point X position for the stroke limit. The prefix is defined on post question: 3574 API: string MILLTURN_GetStrokeLimitI()

stroke_limit_j	
Mill Turn Job	Outputs the value with prefix used to define the 2nd point Y position for the stroke limit. The prefix is defined on post question: 3575 API: string MILLTURN_GetStrokeLimitJ()

stroke_limit_k	
Mill Turn Job	Outputs the value with prefix used to define the 2nd point Z position for the stroke limit. The prefix is defined on post question: 3576 API: string MILLTURN_GetStrokeLimitK()

Torque Skip

g_torque_skip	
Mill Turn Job	Outputs the string that puts the machine in Torque Skip Mode (Used in part transfers) The output string is defined on post question 3566. API: string MILLTURN_GetTorqueSkip()

g_torque_limit_on	
Mill Turn Job	Outputs the string that is used to enable the torque limit mode on the machine. The output string is defined on post question: 3567 API: string MILLTURN_GetTorqueLimitOn()

g_torque_limit_cancel	
Mill Turn Job	Outputs the string that cancels the torque limit mode on the machine. The output string is defined on post question: 3568 API: string MILLTURN_GetTorqueLimitCancel()

Offset

cancel_offset	
Mill Job	Outputs the string representing the compensation OFF command. The output string is defined on post question: 639
Lathe Job	Outputs the string representing the compensation OFF command. The output string is defined on post question: 639
Mill Turn Job	Outputs the string representing the compensation OFF command. The output string is defined on post question: 639

force_cancel_offset	
Mill Job	Forces the output of the cancel cutter compensation code. The string is defined on post question: 639
Mill Turn Job	

d_offset	
Mill Job	Outputs the tool diameter offset value with prefix. The prefix string is defined on post question: 678 API: double MILL_GetToolDiamCompNumber() double MILL_GetToolDiamCompNumberWithAddAmount()
Lathe Job	Outputs the offset value with no formatting or prefix.
Mill Turn Job	Outputs the tool diameter offset value with prefix. The prefix string is defined on post question: 678 API: double MILLTURN_GetToolDiamCompNumber()

t_offset	
Mill Job	Outputs the tool diameter offset value with NO prefix.
Lathe Job	Outputs the offset in a format determined by post question: 513. The value is output with NO prefix.
Mill Turn Job	Outputs the tool diameter offset value with NO prefix.

l_offset	
Mill Job	Outputs the length offset value with NO prefix. API: double MILL_GetToolLengthCompNumber()
Lathe Job	Outputs the offset value formatted by post question: 1513 API: double LATHE_GetLengthOffsetNumber()
Mill Turn Job	Outputs the length offset value with NO prefix. API: double MILLTURN_GetToolLengthOffsetNumber()

length_offset	
Mill Job	Outputs a call to post block: 14 that is used to format and output the tool length offset commands.
Lathe Job	Outputs a call to post block: 14 that is used to format and output the tool length offset commands.
Mill Turn Job	Outputs a call to post block: 14 that is used to format and output the tool length offset commands.

Laser Plasma Waterjet

lpw_cutter_width	
Mill Job	Returns the diameter of the laser/plasma/waterjet tool for the current operation with prefix. The prefix is defined on post question: 750 API: double MILL_GetLPWCutterWidth()

lpw_pierce_height	
Mill Job	Returns the Z pierce height for laser/plasma/waterjet tools with prefix. The prefix is defined on post question: 751 API: double MILL_GetLPWPierceHeight()

lpw_cutter_on_off	
Mill Job	Returns the status of the cutter ON and OFF option in the LPW tool page. 0 = OFF – Code defined on post question: 752 1 = ON – Code defined on post question: 753 API: short MILL_GetLPWIsCutterOnOff()

lpw_cutter_on	
Mill Job	Returns the Cutter ON string from block 752. API: double MILL_GetLPWGetCutterOnString()

lpw_cutter_off	
Mill Job	Returns the Cutter OFF string from block 753. API: double MILL_GetLPWGetCutterOffString()

lpw_gas_assist_on_off	
Mill Job	Returns the status of the Gas Assist option in the LPW Tool page. 0 = OFF – String from post question: 761 1 = ON – String from post question: 760 API: short MILL_GetLPWIsGasAssistOnOff()

lpw_gas_assist_on	
Mill Job	Returns the Gas Assist ON string from post question: 760. API: string MILL_GetLPWGetGasAssistOnString()

lpw_gas_assist_off	
Mill Job	Returns the Gas Assist OFF string from post question: 761. API: string MILL_GetLPWGetGasAssistOffString()

lpw_gas_assist_type	
Mill Job	Returns the type of Gas Assist selected in the LPW Tool page. 0 = Air – String from post question: 762 1 = Oxygen – String from post question: 763 2 = Oxyacetylene – String from post question: 764 API: short MILL_GetLPWIsGasAssistType()

MILL_GetLPWGetGassAssistAirString()–API Only	
Mill Job	Returns the Gas Assist Air string from post question 762. API: string MILL_GetLPWGetGassAssistAirString()

MILL_GetLPWGetGasAssistOxygenString()–API Only	
Mill Job	Returns the Gas Assist Oxygen string from block 763. API: string MILL_GetLPWGetGasAssistOxygenString()

MILL_GetLPWGetGasAssistOxyacetyleneString()–API Only	
Mill Job	Returns the Gas Assist Oxyacetylene string from block 764. API: string MILL_GetLPWGetGasAssistOxyacetyleneString()

lpw_shutter_open	
Mill Job	Returns the Shutter Open string from post question: 765 API: string MILL_GetLPWGetShutterOpenString()

lpw_shutter_open_closed	
Mill Job	Returns the Shutter Open/Closed state. • Open – String found on post question: 765 • Closed – String found on post question: 766

lpw_shutter_closed	
Mill Job	Returns the Shutter Closed string from post question: 766 API: string MILL_GetLPWGetShutterClosedString()

lpw_pulse_frequency	
Mill Job	Returns the Laser Pulse Frequency specified on the Tool page. The prefix is defined on post question: 767 API: short MILL_GetLPWGetPulseFrequency()

lpw_power_setting	
Mill Job	Returns the Laser Power setting specified on the LPW tool page with prefix. The prefix is defined on post question: 768 API: short MILL_GetLPWPowerSetting()

lpw_torch_height_control	
Mill Job	Returns the value specified in the Torch Height Control on the LPW tool page with prefix. The prefix is defined on post question: 769 API: short MILL_GetLPWTorchHeightControl()

lpw_waterjet_abrasive_on_off	
Mill Job	Outputs the abrasive on or off code based on what is selected in the machining feature. • ON – String found on post question: 780 • OFF – String found on post question: 781 •

lpw_waterjet_abrasive_on	
Mill Job	Outputs the abrasive ON command. The string is defined on post question: 780

lpw_waterjet_abrasive_off	
Mill Job	Outputs the abrasive OFF command. The string is defined on post question: 781

lpw_waterjet_vacuum_assist_on_off	
Mill Job	Outputs the vacuum on or off code based on what is selected in the machining feature. • ON – String defined on post question: 782 • OFF – String defined on post question: 783

lpw_waterjet_vacuum_assist_on	
Mill Job	Outputs the vacuum ON code. The string is defined on post question: 782

lpw_waterjet_vacuum_assist_off	
Mill Job	Outputs the vacuum OFF code. The string is defined on post question: 783

lpw_waterjet_pressure_type	
Mill Job	Outputs the pressure command based on selection in the machining feature. • Low – String defined on post question: 784 • Medium – String defined on post question: 785 • High – String defined on post question: 786

Origin Tracking

origin_tracking_on	
Mill Job	Outputs the string to turn ON the origin tracking on the machine. The string output is defined on post question: 730
Mill Turn Job	

origin_tracking_off	
Mill Job	Outputs the string to turn OFF the origin tracking on the machine. The string output is defined on post question: 731
Mill Turn Job	

RTCP Codes

rtcp_code_on	
Mill Job	Outputs the string to turn ON the RTCP command on the machine. The string output is defined on post question: 720
Mill Turn Job	

rtcp_code_off	
Mill Job	Outputs the string to turn OFF the RTCP command on the machine. The string output is defined on post question: 721
Mill Turn Job	

Mill Turn

g112 (Deprecated)	
(deprecated – used in v27 or previous)	
Lathe Job Mill Turn Job	Outputs the string used to turn ON Polar Milling mode. The string output is set to "G112"

g113 (Deprecated)	
(deprecated – used in v27 or previous)	
Lathe Job Mill Turn Job	Outputs the string used to turn OFF Polar Milling mode. The string output is set to "G113"

mt_mode	
Mill Turn Job	Outputs the string for the active mode. • C axis Enabled for Milling mode • C axis Disabled for Turning mode The string values output depends on the active Workpiece device. The strings are defined on post questions: 10x18 and 10x19. API: string MILLTURN_GetMTMode()

Posting Mode – API Only	
Mill Turn Job	Used to get the posting mode. The posting mode is found on the posting page of Mill Turn features. Return Values: 0 = Longhand 1 = Auto/Y Axis Mode 2 = Polar Interpolation Mode API: short MILLTURN_GetPostingMode()

Operation Type – API Only	
Mill Turn Job	Used to determine of the operation is Mill or Lathe. Boolean value is returned. API: boolean MILLTURN_IsLatheOperation()

Polar Mode – API Only	
Mill Turn Job	Used to determine if polar mode is active API: boolean MILLTURN_IsPolarMode()

y_axis_mode	
Mill Turn Job	Outputs the string value used to turn ON or OFF the Y Axis mode on the machine. The output strings are defined on post questions: ON = Post Question: 3590 OFF = Post Question: 3591

y_axis_mode_disable	
Mill Turn Job	Outputs the string value used to turn OFF the Y Axis mode on the machine. The output string is defined on post question: 3591

MDI

NOTE: Custom Tasks will dynamically create the variable that is used to trigger its output.
Whatever the task is named is used to create the variable name.
Example: In the UI the task is named: "Custom Task".
The variable name will be "mdi_CustomTask".
Any spaces in the task name will be removed in the variable name.
Also note that you cannot use the "_" character.

mdi_BeforeToolChange	
Mill Turn Job	This command variable specifies the location where the MDI blocks defined in the Before Tool Change task list should be output.

mdi_WithToolChange	
Mill Turn Job	This command variable specifies the location where the MDI blocks defined in the With Tool Change task list should be output.

mdi_AfterOperation	
Mill Turn Job	This command variable specifies the location where the MDI blocks defined in the After Operation task list should be output.

Tailstock

tailstock_advance_code	
Mill Turn Job	Outputs the code used to make the tailstock advance on the machine. The output string is defined for each tailstock device's post question: 30x01 API: string MILLTURN_GetTailstockAdvanceCode()

tailstock_retract_code	
Mill Turn Job	Outputs the code used to make the tailstock retract on the machine. The output string is defined for each tailstock device's post question: 30x02 API: string MILLTURN_GetTailstockRetractCode()

tailstock_advance_code_1 through tailstock_advance_code_10	
Mill Turn Job	Outputs the code used to make the tailstock advance on the machine. The output string is defined for each specific tailstock device's post question: 30x01. The last number in the variable name defines the tailstock device that should be output. API: string MILLTURN_GetTailstockAdvanceCodeOfDevice(int)

tailstock_retract_code_1 through tailstock_retract_code_10	
Mill Turn Job	Outputs the code used to make the tailstock retract on the machine. The output string is defined for each specific tailstock device's post question: 30x01. The last number in the variable name defines the tailstock device that should be output. API: string MILLTURN_GetTailstockRetractCodeOfDevice(int)

tailstock_device_command_block_1_1 through tailstock_device_command_block_1_10	
Mill Turn Job	This variable will call and process the code that is in the defined tailstock device's Command Block 1 postblock. The last number in the variable name specifies the specific tailstock device to be called.

tailstock_device_command_block_2_1 through tailstock_device_command_block_2_10	
Mill Turn Job	This variable will call and process the code that is in the defined tailstock device's Command Block 2 postblock. The last number in the variable name specifies the specific tailstock device to be called.

tailstock_device_command_block_3_1 through tailstock_device_command_block_3_10	
Mill Turn Job	This variable will call and process the code that is in the defined tailstock device's Command Block 3 postblock. The last number in the variable name specifies the specific tailstock device to be called.

tailstock_device_command_block_4_1 through tailstock_device_command_block_4_10	
Mill Turn Job	This variable will call and process the code that is in the defined tailstock device's Command Block 4 postblock. The last number in the variable name specifies the specific tailstock device to be called.

tailstock_device_command_block_5_1 through tailstock_device_command_block_5_10	
Mill Turn Job	This variable will call and process the code that is in the defined tailstock device's Command Block 5 postblock. The last number in the variable name specifies the specific tailstock device to be called.

Steady Rest

steady_rest_open_code	
Mill Turn Job	Outputs the code used to open the stead rest on the machine. The output string is defined on the active stead rest's post question: 40x01 API: string MILLTURN_GetSteadRestOpenCode()

steady_rest_close_code	
Mill Turn Job	Outputs the code used to close the stead rest on the machine. The output string is defined on the active stead rest's post question: 40x02 API: string MILLTURN_GetSteadRestCloseCode()

steady_rest_open_code_1 through steady_rest_open_code_10	
Mill Turn Job	Outputs the code used to open the stead rest on the machine for a specific stead rest device. The output string is defined on the defined stead rest's post question: 40x01 API: string MILLTURN_GetSteadRestOpenCode1() through string MILLTURN_GetSteadyRestOpenCode10()

steady_rest_close_code_1 through steady_rest_close_code_10	
Mill Turn Job	Outputs the code used to close the stead rest on the machine for a specific stead rest device. The output string is defined on the defined stead rest's post question: 40x02 API: string MILLTURN_GetSteadRestCloseCode1() through string MILLTURN_GetSteadyRestCloseCode10()

steady_rest_device_command_block_1_1 through steady_rest_device_command_block_1_10	
Mill Turn Job	This variable will call and process the code that is in the defined steady rest device's Command Block 1 postblock. The last number in the variable name specifies the specific steady rest device to be called.

steady_rest_device_command_block_2_1 through steady_rest_device_command_block_2_10	
Mill Turn Job	This variable will call and process the code that is in the defined steady rest device's Command Block 2 postblock. The last number in the variable name specifies the specific steady rest device to be called.

steady_rest_device_command_block_3_1 through steady_rest_device_command_block_3_10	
Mill Turn Job	This variable will call and process the code that is in the defined steady rest device's Command Block 3 postblock. The last number in the variable name specifies the specific steady rest device to be called.

steady_rest_device_command_block_4_1 through steady_rest_device_command_block_4_10	
Mill Turn Job	This variable will call and process the code that is in the defined steady rest device's Command Block 4 postblock. The last number in the variable name specifies the specific steady rest device to be called.

steady_rest_device_command_block_5_1 through steady_rest_device_command_block_5_10	
Mill Turn Job	This variable will call and process the code that is in the defined steady rest device's Command Block 5 postblock. The last number in the variable name specifies the specific steady rest device to be called.

Parts Catcher

parts_catcher_advance_code	
Mill Turn Job	Outputs the command from the active parts catcher device to advance the parts catcher on the machine. The output string is defined on each parts catcher device's post question: 50x01 API: string MILLTURN_GetPartsCatcherAdvanceCode()

parts_catcher_retract_code	
Mill Turn Job	Outputs the command from the active parts catcher device to retract the parts catcher on the machine. The output string is defined on each parts catcher device's post question: 50x02 API: string MILLTURN_GetPartsCatcherRetractCode()

parts_catcher_advance_code_1 through parts_catcher_advance_code_10	
Mill Turn Job	Outputs the command from the define parts catcher device to advance the parts catcher on the machine. The output string is defined on each parts catcher device's post question: 50x01 API: string MILLTURN_GetPartsCatcherAdvanceCode_1() through string MILLTURN_GetPartsCatcherAdvanceCode_10()

parts_catcher_retract_code_1 through parts_catcher_retract_code_10	
Mill Turn Job	Outputs the command from the define parts catcher device to retract the parts catcher on the machine. The output string is defined on each parts catcher device's post question: 50x02 API: string MILLTURN_GetPartsCatcherRetractCode_1() through string MILLTURN_GetPartsCatcherRetractCode_10()

parts_catcher_device_command_block_1_1 through parts_catcher_device_command_block_1_10	
Mill Turn Job	This variable will call and process the code that is in the defined parts catcher device's Command Block 1 postblock. The last number in the variable name specifies the specific parts catcher device to be called.

parts_catcher_device_command_block_2_1 through parts_catcher_device_command_block_2_10	
Mill Turn Job	This variable will call and process the code that is in the defined parts catcher device's Command Block 2 postblock. The last number in the variable name specifies the specific parts catcher device to be called.

parts_catcher_device_command_block_3_1 through parts_catcher_device_command_block_3_10	
Mill Turn Job	This variable will call and process the code that is in the defined parts catcher device's Command Block 3 postblock. The last number in the variable name specifies the specific parts catcher device to be called.

parts_catcher_device_command_block_4_1 through parts_catcher_device_command_block_4_10	
Mill Turn Job	This variable will call and process the code that is in the defined parts catcher device's Command Block 4 postblock. The last number in the variable name specifies the specific parts catcher device to be called.

parts_catcher_device_command_block_5_1 through parts_catcher_device_command_block_5_10	
Mill Turn Job	This variable will call and process the code that is in the defined parts catcher device's Command Block 5 postblock. The last number in the variable name specifies the specific parts catcher device to be called.

Workpiece Device

workpiece_device_command_block_1	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's

	Command Block 1 postblock.

workpiece_device_command_block_2	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 2 postblock.

workpiece_device_command_block_3	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 3 postblock.

workpiece_device_command_block_4	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 4 postblock.

workpiece_device_command_block_5	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 5 postblock.

workpiece_device_command_block_6	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 6 postblock.

workpiece_device_command_block_7	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 7 postblock.

workpiece_device_command_block_8	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 8 postblock.

workpiece_device_command_block_9	
Mill Turn Job	This variable will call and process the code that is in the active workpiece device's Command Block 9 postblock.

workpiece_device_command_block_1_1 through workpiece_device_command_block_1_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 1 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_2_1 through workpiece_device_command_block_2_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 2 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_3_1 through workpiece_device_command_block_3_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 3 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_4_1 through workpiece_device_command_block_4_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 4 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_5_1 through workpiece_device_command_block_5_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 5 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_6_1 through workpiece_device_command_block_6_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 6 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_7_1 through workpiece_device_command_block_7_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 7 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_8_1 through workpiece_device_command_block_8_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's

	Command Block 8 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_command_block_9_1 through workpiece_device_command_block_9_10	
Mill Turn Job	This variable will call and process the code that is in the defined workpiece device's Command Block 9 postblock. The last number in the variable name specifies the specific workpiece to be called.

workpiece_device_rotary_index_forward_code	
Mill Turn Job	Outputs the code from the active workpiece device for Rotary Index Forward. String output is defined in each workpiece on post question: 10x22 API: string MILLTURN_WorkpieceDeviceRotaryIndexForwardCode()

workpiece_device_rotary_index_reverse_code	
Mill Turn Job	Outputs the code from the active workpiece device for Rotary Index Reverse. String output is defined in each workpiece on post question: 10x23 API: string MILLTURN_WorkpieceDeviceRotaryIndexReverseCode()

workpiece_device_enable	
Mill Turn Job	Outputs the enable code from the active workpiece device. The string output is defined in each workpiece on post question: 10x00 API: string MILLTURN_GetWorkpieceDeviceEnable()

workpiece_device_disable	
Mill Turn Job	Outputs the disable code from the active workpiece device. The string output is defined in each workpiece on post question: 10x01 API: string MILLTURN_GetWorkpieceDeviceDisable()

Workpiece Device ID – API Only	
Mill Turn Job	Used to get the ID of the active workpiece device. API: short MILLTURN_GetWorkpieceDeviceID()

chuck_clamp	
Mill Turn Job	Outputs the code to make the active workpiece device's chuck clamp onto the workpiece on the machine. The output string is defined on the active workpiece's post question: 10x34. API: string MILLTURN_GetChuckClamp()

chuck_unclamp	
Mill Turn Job	Outputs the code to make the active workpiece device's chuck unclamp the workpiece on the machine. The output string is defined on the active workpiece's post question: 10x35. API: string MILLTURN_GetChuckUnclamp()

spindle_sync	
Mill Turn Job	Outputs the code to enable spindle syncing on the machine. The output string is defined on the active workpiece's post question: 10x36. API: string MILLTURN_GetSpindleSync()

spindle_unsync	
Mill Turn Job	Outputs the code to disable spindle syncing on the machine. The output string is defined on the active workpiece's post question: 10x37. API: string MILLTURN_GetSpindleUnsync()

c_axis_enable	
Mill Turn Job	Outputs the string from the active workpiece's block to enable the C axis Milling Mode on the machine. The output string is defined on each workpiece's post question: 10x18. API: string MILLTURN_GetCAxisEnable()

c_axis_disable	
Mill Turn Job	Outputs the string from the active workpiece's block to disable the C axis Milling Mode on the machine. The output string is defined on each workpiece's post question: 10x19. API: string MILLTURN_GetCAxisEnable()

Tool Device

tool_device_command_block_1	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 1 postblock.

tool_device_command_block_2	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 2 postblock.

tool_device_command_block_3	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 3 postblock.

tool_device_command_block_4	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 4 postblock.

tool_device_command_block_5	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 5 postblock.

tool_device_command_block_6	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 6 postblock.

tool_device_command_block_7	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 7 postblock.

tool_device_command_block_8	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 8 postblock.

tool_device_command_block_9	
Mill Turn Job	This variable will call and process the code that is in the active tool device's Command Block 9 postblock.

tool_device_command_block_1_1 through tool_device_command_block_1_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's

	Command Block 1 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_2_1 through tool_device_command_block_2_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 2 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_3_1 through tool_device_command_block_3_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 3 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_4_1 through tool_device_command_block_4_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 4 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_5_1 through tool_device_command_block_5_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 5 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_6_1 through tool_device_command_block_6_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 6 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_7_1 through tool_device_command_block_7_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 7 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_8_1 through tool_device_command_block_8_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 8 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_command_block_9_1 through tool_device_command_block_9_10	
Mill Turn Job	This variable will call and process the code that is in the defined tool device's Command Block 9 postblock. The last number in the variable name specifies the specific tool device to be called.

tool_device_rotary_index_forward_code	
Mill Turn Job	Outputs the code to index in the forward direction on the machine. The output string is defined on each tool device's post question: 20x18 API: string MILLTURN_GetToolDeviceRotaryIndexForwardCode()

tool_device_rotary_index_reverse_code	
Mill Turn Job	Outputs the code to index in the reverse direction on the machine. The output string is defined on each tool device's post question: 20x19 API: string MILLTURN_GetToolDeviceRotaryIndexReverseCode()

tool_device_enable	
Mill Turn Job	Outputs the code to enable the active tool device. The output string is defined on each tool device's post question: 20x00 API: string MILLTURN_GetToolDeviceEnable()

tool_device_disable	
Mill Turn Job	Outputs the code to disable the active tool device. The output string is defined on each tool device's post question: 20x01 API: string MILLTURN_GetToolDeviceDisable()

Tool Device ID – API Only	
Mill Turn Job	Used to get the ID of the active tool device. API: short MILLTURN_GetToolDeviceID()

spindle_orient_code	
Mill Turn Job	Outputs the string from the active tool device to activate the spindle orientation on the machine. The output string is defined on each tool device's post block: 20x05. API: string MILLTURN_GetSpindleOrientCode()

spindle_orient_position	
Mill Turn Job	Outputs the position of the spindle orientation with prefix for the active tool device. The value will come from the Tool Angle Control dialog found in each turning operation. The prefix is defined on each tool device's post question: 20x06 API: string MILLTURN_GetSpindleOrientPosition()

spindle_orient_position_no_prefix	
Mill Turn Job	Outputs the position of the spindle orientation with NO prefix for the active tool device. The value will come from the Tool Angle Control dialog found in each turning operation.

Zone

zone_device_enable	
Mill Turn Job	Outputs the command to enable a workzone on the machine. The output string is defined for each zone post block and the active zone determines the output. The zone 1 enable block is defined on post question: 6011. API: string MILLTURN_GetZoneDeviceEnable()

zone_device_disable	
Mill Turn Job	Outputs the command to disable a workzone on the machine. The output string is defined for each zone post block and the active zone determines the output. The zone 1 disable block is defined on post question: 6012. API:

	string MILLTURN_GetZoneDeviceDisable()

zone_device_enable_1 through zone_device_enable_100	
Mill Turn Job	Outputs the command to enable a specific workzone on the machine. The output string is defined for each zone post block and the specified zone determines the output. The zone 1 enable block is defined on post question: 6011. The number at the end of the variable name defines the specific zone to output. API: string MILLTURN_GetZoneDeviceEnableOfDevice(int)

zone_device_disable_1 through zone_device_disable_100	
Mill Turn Job	Outputs the command to disable a specific workzone on the machine. The output string is defined for each zone post block and the specified zone determines the output. The zone 1 disable block is defined on post question: 6012. The number at the end of the variable name defines the specific zone to output. API: string MILLTURN_GetZoneDeviceDisableOfDevice(int)

zone_command_block_1	
Mill Turn Job	This variable will call and process the code that is found in the active Zone's Command Block 1 postblock.

zone_command_block_2	
Mill Turn Job	This variable will call and process the code that is found in the active Zone's Command Block 2 postblock.

zone_command_block_3	
Mill Turn Job	This variable will call and process the code that is found in the active Zone's Command Block 3 postblock.

zone_command_block_4	
Mill Turn Job	This variable will call and process the code that is found in the active Zone's Command Block 4 postblock.

zone_command_block_5	
Mill Turn Job	This variable will call and process the code that is found in the active Zone's Command Block 5 postblock.

zone_command_block_1_1 through zone_command_block_1_99	
Mill Turn Job	This variable will call and process the code that is in the defined Zone's Command Block 1 postblock. The last number in the variable name specifies the specific zone to be called.

zone_command_block_2_1 through zone_command_block_2_99	
Mill Turn Job	This variable will call and process the code that is in the defined Zone's Command Block 2 postblock. The last number in the variable name specifies the specific zone to be called.

zone_command_block_3_1 through zone_command_block_3_99	
Mill Turn Job	This variable will call and process the code that is in the defined Zone's Command Block 3 postblock. The last number in the variable name specifies the specific zone to be called.

zone_command_block_4_1 through zone_command_block_4_99	
Mill Turn Job	This variable will call and process the code that is in the defined Zone's Command Block 4 postblock. The last number in the variable name specifies the specific zone to be called.

zone_command_block_5_1 through zone_command_block_5_99	
Mill Turn Job	This variable will call and process the code that is in the defined Zone's Command Block 5 postblock. The last number in the variable name specifies the specific zone to be called.

Zone ID – API Only	
Mill Turn Job	Used to get the ID of the active work zone. API: short MILLTURN_GetZoneID()

Syncing Codes

sync_code_out	
Mill Turn Job	This variable is used to output the system generated syncing code. The output is dependent on the setting of post question: 3603. The prefix of output sync codes is defined on post question: 3600 The sync code starting number is defined on post question: 3601 The sync code increment value is defined on post question: 3602

sync_code_out_no_prefix	
Mill Turn Job	This variable is used to output the system generated syncing code with NO prefix. The output is dependent on the setting of post question: 3603. The sync code starting number is defined on post question: 3601 The sync code increment value is defined on post question: 3602

sync_section_code_out	
Mill Turn Job	This variable is used to output the section starting code used to define the beginning of a section for syncing. The output string is defined in the tool device block 20x32.

NCEditor Header Line

comment_start,"JOBSETUP[",prog_name_no_ext_no_path,force_no_add_spaces,".mwjs]JOBSETUP",comment_end	
Mill Job	This is the standard format recommended for adding the job setup information needed by the NCEditor at the beginning of the post processor.
Lathe Job	

Predator Header Variables

ltool_home	
Lathe Job	Outputs the lathe tool home number needed for the predator header. The string prefix comes from post question: 1843
Mill Turn Job	Outputs the lathe tool home number needed for the predator header. The string prefix comes from post question: 1843

ltool_type	
Lathe Job	Outputs the lathe tool type with no prefix.
Mill Turn Job	

ltool_cutting_angle	
Lathe Job Mill Turn Job	Outputs the lathe tool cutting angle with NO prefix.

ltool_ic	
Lathe Job Mill Turn Job	Outputs the tool IC in decimal format with NO prefix.

ltool_angle	
Lathe Job Mill Turn Job	Outputs the tool angle with NO prefix.

ltool_corner_rad	
Lathe Job Mill Turn Job	Outputs the tool corner radius value in decimal format with NO prefix.

ltool_height	
Lathe Job Mill Turn Job	Outputs the tool height in decimal format with NO prefix.

ltool_diam	
Lathe Job Mill Turn Job	Outputs the tool diameter in decimal format with NO prefix.

ltool_orientation	
Lathe Job Mill Turn Job	Outputs the tool orientation number with NO prefix.

z_end_of_stock	
Lathe Job Mill Turn Job	Outputs the end coordinate for lathe stock in decimal format with NO prefix.

stock_diameter	
Lathe Job Mill Turn Job	Outputs the diameter(x axis) of the stock in decimal format with NO prefix.

stock_length	
Lathe Job Mill Turn Job	Outputs the length of the stock(z axis) in decimal format with NO prefix.

stock_internal_diameter	
Lathe Job Mill Turn Job	Outputs the ID of the stock in decimal format with NO prefix.

Misc Codes

g_offset_value_set	
Mill Turn Job	Outputs the string used to put the machine in offset value set mode. The string output is defined on post question: 3564 API: string MILLTURN_GetOffsetValueSet()

g_offset_value_set_cancel	
Mill Turn Job	Outputs the string used to cancel the machine offset value set mode. The string output is defined on post question: 3565 API: string MILLTURN_GetOffsetValueSetCancel()

machine_coordinate_code	
Mill Turn Job	Outputs the code that is used to switch the machine to Machine Coordinates. The output string is defined on post question: 652 Commonly set to G53 API: string MILLTURN_GetMachineCoordinateCode()

zero_set	
Mill Turn Job	Outputs the code that is used to set coordinate system within the program. The output string is defined on post question: 622 Commonly set to G92

machine_home_code	
Mill Turn Job	Outputs the code that is used to switch the machine to coordinates relative to the home position. The output string is defined on post question: 653 Commonly set to G28 API: string MILLTURN_GetMachineCoordinateCode()

optional_rotary_rewind	
Mill Turn Job	This command variable controls when the rotary rewind block 111 will be called in posting. The following logic is used for the output of this command variable: • Lathe Operation – Don't Output • Mill Operation and post question: 445 = Y then output • Mill Operation and post question: 445 = N then don't output •

Probing

The following section consists of all post variables that are available for outputting codes for Probing cycles

General

macro_call	
Mill Job	Outputs the string that is used to call the macro. The string output is defined on post question: 4200

probe_on	
Mill Job	Outputs the string to turn ON probing. The string output is defined on post question: 4201

probe_off	
Mill Job	Outputs the string to turn OFF probing. The string output is defined on post question: 4202

probe_protected	
Mill Job	Outputs the string to start the protected positioning of the probe (alternatively, this can also be used to detect misloaded components). The string output is defined on post question: 4203

probe_raw_text	
Mill Job	Outputs the string entered in the Raw Text tab of the measure, contact tool setter, non-contact tool setter operations. This is typically used in the end of the operation block to output any additional code at the end of the probing cycle.

Measure Cycles

probe_x_single	
Mill Job	Outputs the string to call X single surface measurement cycle. The string output is defined on post question: 4204

probe_y_single	
Mill Job	Outputs the string to call Y single surface measurement cycle. The string output is defined on post question: 4205

probe_z_single	
Mill Job	Outputs the string to call Z single surface measurement cycle. The string output is defined on post question: 4206

probe_web	
Mill Job	Outputs the string to call web measurement cycle. The string output is defined on post question: 4207

probe_pocket	
Mill Job	Outputs the string to call pocket measurement cycle. The string output is defined on post question: 4208

probe_boss_4	
Mill Job	Outputs the string to call 4-point boss measurement cycle. The string output is defined on post question: 4209

probe_bore_4	
Mill Job	Outputs the string to call 4-point bore measurement cycle. The string output is defined on post question: 4210

probe_boss_3	
Mill Job	Outputs the string to call 3-point boss measurement cycle. The string output is defined on post question: 4211

probe_bore_3	
Mill Job	Outputs the string to call 3-point bore measurement cycle. The string output is defined on post question: 4212

probe_int_corner	
Mill Job	Outputs the string to call internal corner measurement cycle. The string output is defined on post question: 4213

probe_ext_corner	
Mill Job	Outputs the string to call external corner measurement cycle. The string output is defined on post question: 4214

probe_ext_5rect	
Mill Job	Outputs the string to call 5-point rectangle external measurement cycle. The string output is defined on post question: 4215

probe_int_5rect	
Mill Job	Outputs the string to call 5-point rectangle internal measurement cycle. The string output is defined on post question: 4216

probe_line	
Mill Job	Outputs the string to call angled surface using Angle & Distance inputs measurement cycle. The string output is defined on post question: 4217

probe_surface	
Mill Job	Outputs the string to call angled surface using X,Y,Z inputs measurement cycle. The string output is defined on post question: 4218

probe_angled_web	
Mill Job	Outputs the string to call angled web measurement cycle. The string output is defined on post question: 4219

probe_angled_pocket	
Mill Job	Outputs the string to call angled pocket measurement cycle. The string output is defined on post question: 4220

probe_4th_axis	
Mill Job	Outputs the string to call 4th axis (rotary axis around X-axis) measurement cycle. The string output is defined on post question: 4221

probe_4th_axis_2	
Mill Job	Outputs the string to call 4th axis (rotary axis around Y-axis) measurement cycle. The string output is defined on post question: 4222

probe_boss_pcd	
Mill Job	Outputs the string to call boss on a PCD (pitch circle diameter) measurement cycle. The string output is defined on post question: 4223

probe_bore_pcd	
Mill Job	Outputs the string to call bore on a PCD (pitch circle diameter) measurement cycle. The string output is defined on post question: 4224

probe_angled_surf	
Mill Job	Outputs the string to call angle measurement cycle in X or Y plane. The string output is defined on post question: 4225

Probing measure cycle parameters

x_pos	
Mill Job	Outputs the X axis position of the probe. The prefix string is defined on post question: 4250

y_pos	
Mill Job	Outputs the Y axis position of the probe. The prefix string is defined on post question: 4251

z_pos	
Mill Job	Outputs the Z axis position of the probe. The prefix string is defined on post question: 4252

probe_b_dia	
Mill Job	Outputs the value for bore and boss diameter parameter (typically used in boss & bore 4 points) measure cycle. The prefix string output is defined on post question: 4253

probe_angle	
Mill Job	Outputs the value for probe angle parameter (typically used in angled surface with Angle & distance, angled web, angled pocket, boss & bore on PCD, angle measurement in X or Y plane). The prefix string is defined on post question: 4254

probe_angle1	
Mill Job	Outputs the value for probe first angle parameter (typically used in 3-point boss & bore measurement). The prefix string is defined on post question: 4255

probe_angle2	
Mill Job	Outputs the value for probe second angle parameter (typically used in 3-point boss & bore measurement). The prefix string is defined on post question: 4256

probe_angle3	
Mill Job	Outputs the value for probe third angle parameter (typically used in 3-point boss & bore measurement). The prefix string is defined on post question: 4257

probe_dist	
Mill Job	Outputs the value for probe distance between 2 points (typically used in angled boss, angled bore, angle measurement in X or Y plane cycles). The prefix string is defined on post question: 4258

probe_x_dist	
Mill Job	Outputs the value for probe X distance (typically used in internal and external corner measurement cycles). The prefix string is defined on post question: 4259

probe_y_dist	
Mill Job	Outputs the value for probe Y distance (typically used in internal and external corner measurement cycles). The prefix string is defined on post question: 4260

probe_x_dist2	
Mill Job	Outputs the value for probe second X distance (typically used in internal and external corner measurement cycles). The prefix string is defined on post question: 4261

probe_y_dist2	
Mill Job	Outputs the value for probe second Y distance (typically used in internal and external corner measurement cycles). The prefix string is defined on post question: 4262

x_dist	
Mill Job	Outputs the value for probe X distance in 4th axis measurement cycles. The prefix string is defined on post question: 4263

y_dist	
Mill Job	Outputs the value for probe Y distance in 4th axis measurement cycles. The prefix string is defined on post question: 4264

x_length	
Mill Job	Outputs the value for probe X length (typically used in internal and external 5-point rectangle measurement cycles). The prefix string is defined on post question: 4265

y_length	
Mill Job	Outputs the value for probe Y length (typically used in internal and external 5-point rectangle measurement cycles). The prefix string is defined on post question: 4266

z_pos_k	
Mill Job	Outputs the value for probe Z measure position (typically used in Bore on PCD measurement cycles). The prefix string is defined on post question: 4267

5rect_face	
Mill Job	Outputs the value for probing face where 2 measurements are done (typically used in internal & external 5-point rectangle measure cycles). The prefix string is defined on post question: 4268 The hard-coded values are 11, 12, 13, 14. Eg: if prefix string defined is “A”, then output will be A14

5rect_p2_p4_pos	
Mill Job	Outputs the value for position of points P2 and P4 in X-axis relative to bottom left-hand corner (typically used in internal & external 5-point rectangle measure cycles). The prefix string is defined on post question: 4269

5rect_dist	
Mill Job	Outputs the value for distance between two measure points on the same face (typically used in internal & external 5-point rectangle measure cycles). The prefix string is defined on post question: 4270

5rect_p1_p3_pos	
Mill Job	Outputs the value for position of points P1 and P3 in Y-axis relative to bottom left-hand corner (typically used in internal & external 5-point rectangle measure cycles). The prefix string is defined on post question: 4271

probe_surf_output	
Mill Job	outputs the value for Angled Surface in XYZ measure cycle to be used with trigger points for Spindle Center-line adjust, Surface contact point adjust along the vector. The prefix string is defined on post question:4272

probe_rotary	
Mill Job	Outputs the value to set the orientation of 4th axis(typically used in 4th axis measurement cycles). The prefix string is defined on post question: 4273

probe_pcd	
Mill Job	Outputs the value for pitch circle diameter (typically used in bore and boss on PCD measure cycles). The prefix string is defined on post question: 4274

probe_num_features	
Mill Job	Outputs the value for number of features on PCD (typically used in bore and boss on PCD measure cycles). The prefix string is defined on post question: 4275

Optional Parameters

probe_angle_tol	
Mill Job	Outputs the value for angle tolerance of the surface. The prefix string is defined on post question: 4276

probe_experience	
Mill Job	Outputs the experience value of a tool offset to be applied to the measure size. The prefix string is defined on post question: 4277

probe_feedback	
Mill Job	Outputs the value for % of feedback that is used when updating a tool offset. The prefix string is defined on post question: 4278

probe_feature_tol	
Mill Job	Outputs the probe feature tolerance value being measured. The prefix string is defined on post question: 4279

probe_true_tol	
Mill Job	Outputs the probe feature true position tolerance value. The prefix string is defined on post question: 4280

probe_overtravel	
Mill Job	Outputs the overtravel distance which the probe uses to travel beyond the expected position to find a surface. The prefix string is defined on post question: 4281

probe_inc_distance	
Mill Job	Outputs the incremental distance from the target surface prior to a Z-axis move. The prefix string is defined on post question: 4282

probe_work_offset	
Mill Job	Outputs the work offset to be updated. The prefix string is defined on post question: 4283

probe_tool_offset	
Mill Job	Outputs the tool offset to be updated. The prefix string is defined on post question: 4284

probe_upper_tol	
Mill Job	Outputs the upper tolerance value. The prefix string is defined on post question: 4285

probe_null_band	
Mill Job	Outputs the null band value which is a limit where no tool offset adjustments are done. The prefix string is defined on post question: 4286

probe_print	
Mill Job	Outputs code to print the output data. The prefix string is defined on post question: 4287

probe_print_open	
Mill Job	Outputs code to open the port to print data. The string output is defined on post question: 4288

probe_print_close	
Mill Job	Outputs code to close the port after printing the data. The string output is defined on post question: 4289

Contact tool setter cycle variables

probe_cts_auto_length	
Mill Job	Outputs the string to call for contact tool setter automatic length cycle. The string output is defined on post question: 4400

probe_cts_auto_diameter	
Mill Job	Outputs the string to call for contact tool setter automatic diameter cycle. The string output is defined on post question: 4401

probe_cts_auto_length_diam	
Mill Job	Outputs the string to call for contact tool setter automatic length & diameter cycle. The string output is defined on post question: 4402

probe_cts_auto_length_up	
Mill Job	Outputs the string to call for contact tool setter automatic length feeding upwards cycle. The string output is defined on post question: 4403

probe_cts_broken_tool	
Mill Job	Outputs the string to call for contact tool setter broken tool cycle. The string output is defined on post question: 4404

probe_cts_manual_length	
Mill Job	Outputs the string to call for contact tool setter manual length cycle. The string output is defined on post question: 4405

probe_cts_manual_diam	
Mill Job	Outputs the string to call for contact tool setter manual diameter cycle. The string output is defined on post question: 4406

probe_cts_thermal_comp	
Mill Job	Outputs the string to call for contact tool setter thermal compensation cycle. The string output is defined on post question: 4407

Contact tool setter cycle parameter variables

probe_cts_tool_type	
Mill Job	Outputs the value for contact tool setter measurement type. The prefix string is defined on post question: 4420 The hard-coded values are 1,2,3,4. Eg: if prefix string is defined as “B”, Then for Automatic length cycle: B1 Automatic diameter cycle: B2 Automatic length & diameter cycle: B3 Automatic length, feeding upwards cycle: B4

probe_cts_tool_diameter	
Mill Job	Outputs the diameter of the tool selected for contact tool setter cycle. The prefix string is defined on post question: 4421

probe_cts_tool_tol	
Mill Job	Outputs the tolerance value for the contact tool setter cycle. The prefix string is defined on post question: 4422

probe_cts_length_exper	
Mill Job	Outputs the experience value for length of the tool selected for the contact tool setter cycle. The prefix string is defined on post question: 4423

probe_cts_broken	
Mill Job	Outputs the out of tolerance value (broken tool flag) for the contact tool setter cycle. The prefix string is defined on post question: 4424

probe_cts_overtravel	
Mill Job	Outputs the overtravel distance for the contact tool setter cycle. The prefix string is defined on post question: 4425

probe_cts_tool_offset	
Mill Job	Outputs the height offset of the tool selected for the contact tool setter cycle. The prefix string is defined on post question: 4426

probe_cts_tool_length	
Mill Job	Outputs the approx. tool length value of the tool selected for the contact tool setter cycle. The prefix string is defined on post question: 4427

probe_cts_tool_typeA	
Mill Job	Outputs the diameter offset value for Type A offset tables of the tool selected for the contact tool setter cycle. The prefix string is defined on post question: 4428

probe_cts_diam_exper	
Mill Job	Outputs the experience value for diameter of the tool selected for the contact tool setter cycle. The prefix string is defined on post question: 4429

probe_cts_z_clear	
Mill Job	Outputs the Z clearance value for the contact tool setter cycle. The prefix string is defined on post question: 4430

probe_cts_z_measure	
Mill Job	Outputs the Z measure position for the contact tool setter cycle. The prefix string is defined on post question: 4431

probe_cts_inc_radial	
Mill Job	Outputs the radial incremental value for the contact tool setter cycle. The prefix string is defined on post question: 4432

probe_cts_rapid_pos	
Mill Job	Outputs the rapid position to move the tool to above the tool setter for broken tool cycle. The prefix string is defined on post question: 4433

probe_cts_z_clearance	
Mill Job	Outputs the rapid position to move the tool to above the tool setter for broken tool cycle. The prefix string is defined on post question: 4434

probe_cts_thermal_type	
Mill Job	Outputs the base data option for thermal compensation cycle. The prefix string is defined on post question: 4435 The hard-coded values are 1,2 Eg: if the prefix string defined is “C” For base data option Measure and store selected, output is C1 For base data option Measure and compare selected, output is C2

probe_cts_thermal_measure	
Mill Job	Outputs the measure position for thermal compensation cycle. The prefix string is defined on post question: 4436

probe_cts_x_storage	
Mill Job	Outputs the X storage location value for thermal compensation cycle. The prefix string is defined on post question: 4437

probe_cts_y_storage	
Mill Job	Outputs the Y storage location value for thermal compensation cycle. The prefix string is defined on post question: 4438

probe_cts_z_storage	
Mill Job	Outputs the Z storage location value for thermal compensation cycle. The prefix string is defined on post question: 4439

probe_cts_overtravel_radial	
Mill Job	Outputs the overtravel distance/radial clearance for contact tool setter cycles. The prefix string is defined on post question: 4440 NOTE – The value output in the post is the same value for overtravel distance in the UI. This is required in Haas controller sometimes as an option where overtravel length and overtravel radial distances are used.

Non-contact tool setter cycle variables

probe_nts_length	
Mill Job	Outputs the string to call for non-contact tool setter length cycle. The string output is defined on post question: 4500

probe_nts_diameter	
Mill Job	Outputs the string to call for non-contact tool setter diameter cycle. The string output is defined on post question: 4501

probe_nts_length_diam	
Mill Job	Outputs the string to call for non-contact tool setter length & diameter cycle. The string output is defined on post question: 4502

probe_nts_cutting_edge	
Mill Job	Outputs the string to call for non-contact tool setter cutting edge checking cycle. The string output is defined on post question: 4503

probe_nts_broken_plunge	
Mill Job	Outputs the string to call for non-contact tool setter broken tool detection – plunge checking cycle. The string output is defined on post question: 4504

probe_nts_broken_solid	
Mill Job	Outputs the string to call for non-contact tool setter broken tool detection for solid tools cycle. The string output is defined on post question: 4505

probe_nts_radius_check	
Mill Job	Outputs the string to call for non-contact tool setter radius profile checking cycle. The string output is defined on post question: 4506

probe_nts_linear_check	
Mill Job	Outputs the string to call for non-contact tool setter linear profile checking cycle. The string output is defined on post question: 4507

probe_nts_thermal_full	
Mill Job	Outputs the string to call for non-contact tool setter full temperature compensation tacking cycle. The string output is defined on post question: 4508

probe_nts_thermal_spindle	
Mill Job	Outputs the string to call for non-contact tool setter spindle axis temperature compensation tracking cycle. The string output is defined on post question: 4509

probe_nts_thermal_radial	
Mill Job	Outputs the string to call for non-contact tool setter radial axis temperature compensation tracking cycle. The string output is defined on post question: 4510

probe_nts_corner_measure	
Mill Job	Outputs the string to call for non-contact tool setter corner radius measurement cycle. The string output is defined on post question: 4511

Non-contact tool setter cycle parameter variables

probe_nts_tool_type	
Mill Job	Outputs the value for non-contact tool setter measurement type. The prefix string is defined on post question: 4550 The hard-coded values are 1,2,3,4. Eg: if prefix string is defined as “B”, Then for Tool length cycle: B1 Tool diameter cycle: B2 Tool length & diameter cycle: B3 Tool cutting edge checking cycle: B4

probe_nts_tool_tol	
Mill Job	Outputs the tolerance value for the non-contact tool setter cycle. The prefix string is defined on post question: 4551

probe_nts_length_exper	
Mill Job	Outputs the experience value for length of the tool selected for the non-contact tool setter cycle. The prefix string is defined on post question: 4552

probe_nts_broken	
Mill Job	Outputs the out of tolerance value (broken tool flag) for the non-contact tool setter cycle. The prefix string is defined on post question: 4553

probe_nts_overtravel	
Mill Job	Outputs the overtravel distance for the non-contact tool setter cycle. The prefix string is defined on post question: 4554

probe_nts_spindle_speed	
Mill Job	Outputs the spindle speed for the non-contact tool setter cycle. The prefix string is defined on post question: 4555

probe_nts_tool_offset	
Mill Job	Outputs the tool offset string for the non-contact tool setter cycle. The prefix string is defined on post question: 4556

probe_nts_stepover	
Mill Job	Outputs the radial stepover for the non-contact tool setter cycle. The prefix string is defined on post question: 4557

probe_nts_solid_tool	
Mill Job	Outputs the check for solid tools to inhibit the minimum RPM for the non-contact tool setter cycle. The prefix string is defined on post question: 4558

probe_nts_cutter_edge	
Mill Job	Outputs the cutter edge length & side for the non-contact tool setter cycle. The prefix string is defined on post question: 4559

probe_nts_diam_offset	
Mill Job	Outputs the diameter offset for the non-contact tool setter cycle. The prefix string is defined on post question: 4560

probe_nts_diam_tol	
Mill Job	Outputs the diameter tolerance value for the non-contact tool setter cycle. The prefix string is defined on post question: 4561

probe_nts_step_dist	
Mill Job	Outputs the radial stepover value for the non-contact tool setter cycle. The prefix string is defined on post question: 4562

probe_nts_diam_exper	
Mill Job	Outputs the experience value for diameter of the tool selected for the non-contact tool setter cycle. The prefix string is defined on post question: 4563

probe_nts_tool_diameter	
Mill Job	Outputs the profile radius of the tool selected for the non-contact tool setter cycle. The prefix string is defined on post question: 4564

probe_nts_search_dist	
Mill Job	Outputs the search distance for the non-contact tool setter cycle. The prefix string is defined on post question: 4565

probe_nts_measure_z	
Mill Job	Outputs the Z measure height for the non-contact tool setter cycle. The prefix string is defined on post question: 4566

probe_nts_num_edges	
Mill Job	Outputs the number of edges of the tool selected for the non-contact tool setter cycle. The prefix string is defined on post question: 4567

probe_nts_feed_rev	
Mill Job	Outputs the feed per revolution value for the non-contact tool setter cycle. The prefix string is defined on post question: 4568

probe_nts_runout_tol	
Mill Job	Outputs the run-out tolerance value for the non-contact tool setter cycle. The prefix string is defined on post question: 4569

probe_nts_safety_z	
Mill Job	Outputs the Z safety distance for the non-contact tool setter cycle. The prefix string is defined on post question: 4570

probe_nts_start_angle	
Mill Job	Outputs the start angle on the cutter radius profile checking for the non-contact tool setter cycle. The prefix string is defined on post question: 4571

probe_nts_end_angle	
Mill Job	Outputs the end angle on the cutter radius profile checking for the non-contact tool setter cycle. The prefix string is defined on post question: 4572

probe_nts_check_height	
Mill Job	Outputs the check height value for the non-contact tool setter cycle. The prefix string is defined on post question: 4573

probe_nts_linear_dist	
Mill Job	Outputs the linear distance value for the non-contact tool setter cycle. The prefix string is defined on post question: 4574

probe_nts_radial_dist	
Mill Job	Outputs the radial distance value for the non-contact tool setter cycle. The prefix string is defined on post question: 4575

probe_nts_work_offset	
Mill Job	Outputs the work offset string for the non-contact tool setter cycle. The prefix string is defined on post question: 4576

probe_nts_tool_length	
Mill Job	Outputs the approx. tool length for the non-contact tool setter cycle. The prefix string is defined on post question: 4577

probe_nts_corner_rad	
Mill Job	Outputs the corner radius value of the selected tool for the non-contact tool setter cycle. The prefix string is defined on post question: 4578

probe_nts_num_touch	
Mill Job	Outputs the number of touches for the non-contact tool setter cycle. The prefix string is defined on post question: 4579

probe_nts_radial_option	
Mill Job	Outputs the radial measure axis option for the non-contact tool setter cycle. The prefix string is defined on post question: 4580 The hard coded values are 1,-1,2 For example, if the prefix string is defined as “B”, then for: Positive side – V1 Negetive side – V-1 Both – V2

Scripting Specific APIs

The follow section of API’s are specific to post scripting and the API’s needed to add functionality to the package.

Wrapping – API Only	
Mill Turn Job	Used to determine if wrapping is used for current operation. API: boolean MILLTURN_IsWrappingOperation()

Cross Drilling – API Only	
Mill Turn Job	Used to determine if active drilling operation is cross drilling. API: boolean MILLTURN_IsCrossDrill()

Operation On Index – API Only	
Mill Job	Used to determine if current operation is on an index system. API: boolean MILL_IsOperationOnIndex()
Mill Turn Job	Used to determine if current operation is on an index system. API: boolean MILLTURN_IsOperationOnIndex()

Feature Sub Type – API Only	
Lathe Job	Returns the feature type for Lathe Features. 0 = OD 1 = ID 2 = Front Face 3 = Back Face API: short LATHE_GetFeatureSubType()
Mill Turn Job	

Lathe Region – API Only	
Lathe Job	Returns the region defined on the Feature page of turning features. Region = Return Value 1 = 1 2 = 2 API: short LATHE_GetLatheRegion()
Mill Turn Job	

Get String – API Only	
Mill Turn Job	Used to return the string value from custom defined string blocks 2400-2499 API: string GetStringOfBlock(*long BlockID*)

Get Boolean – API Only	
Mill Turn Job	Used to return the boolean value from block API: string GetBoolOfBlock(*long BlockID*)

Get Integer – API Only	
Mill Turn Job	Used to return the Integer value from custom defined integer blocks 2200-2299 API: string GetIntegerOfBlock(*long BlockID*)

Get Double – API Only	
Mill Turn Job	Used to return the Double value from custom defined double blocks 2300-2399 API: string GetDoubleOfBlock(*long BlockID*)

MILL_SetZRapid(double var)–API Only	
Mill Job	Sets the current rapid location for the Z Axis using a Double variable
Mill Turn Job	API: MILL_SetZRapid(*variable_name*)

MILL_SetXFeed(double var)–API Only	
Mill Job	Sets the current feed location for the X Axis using a Double variable
Mill Turn Job	API: MILL_SetXFeed(*variable_name*)

MILL_SetYFeed(double var)–API Only	
Mill Job	Sets the current feed location for the Y Axis using a Double variable API: MILL_SetYFeed(*variable_name*)
Mill Turn Job	

MILL_SetZFeed(double var)–API Only	
Mill Job	Sets the current feed location for the Z Axis using a Double variable API: MILL_SetZFeed(*variable_name*)
Mill Turn Job	

MILL_SetPreviousXFeed(double var)–API Only	
Mill Job	Sets the previous feed location for the X Axis using a Double variable API: MILL_SetPreviousXFeed(*variable_name*)
Mill Turn Job	

MILL_SetPreviousYFeed(double var)–API Only	
Mill Job	Sets the previous feed location for the Y Axis using a Double variable API: MILL_SetPreviousYFeed(*variable_name*)
Mill Turn Job	

MILL_SetPreviousZFeed(double var)–API Only	
Mill Job	Sets the previous feed location for the Z Axis using a Double variable API: MILL_SetPreviousZFeed(*variable_name*)
Mill Turn Job	

MILL_GetArcRelCenterX – API Only	
Mill Job	Returns the relative X coordinate for the center of an arc. API: double MILL_GetArcRelCenterX()
Mill Turn Job	

MILL_GetArcRelCenterY – API Only	
Mill Job	Returns the relative Y coordinate for the center of an arc. API: double MILL_GetArcRelCenterY()
Mill Turn Job	

MILL_GetArcRelCenterZ – API Only	
Mill Job	Returns the relative Z coordinate for the center of an arc. API: double MILL_GetArcRelCenterZ()
Mill Turn Job	

MILL_GetCurrentArcAngle()–API Only	
Mill Job	Returns the sweep of the current arc in radians. API: double MILL_GetCurrentArcAngle()
Mill Turn Job	

MILL_GetCurrentArcLength()–API Only	
Mill Job	Returns the length of the current arc. API: double MILL_GetCurrentArcLength()
Mill Turn Job	

MILL_GetArcDir()–API Only	
Mill Job	Returns the direction of the current arc entity. 2 = CW 3 = CCW API: short MILL_GetArcDir()
Mill Turn Job	

MILL_GetArcAngleDegrees()–API Only	
Mill Job	V25 Build 895 and later: Returns the sweep of an arc in degrees.
Mill Turn Job	V25 Build 769 and earlier: Returns the sweep of an arc in Radians. To get degrees, the value must be multiplied by 180 and divided by pi. API: double MILL_GetArcAngleDegrees()

MILL_GetArcMachiningPlane()–API Only	
Mill Job	Returns the current machining plane for arcs(i.e G17, G18, G19). The number returns from this function is a reference to the plane and not the actual plane designation.
Mill Turn Job	0 = XY Plane 1 = YZ Plane 2 = XZ Plane API: short MILL_GetArcMachiningPlane()

MILL_GetRotaryIndexAngle()–API Only	
Mill Job	Returns the current index angle for the rotational axis. This returns the user-input value from the Rotary Angle option within the feature.
Mill Turn Job	API: double MILL_GetRotaryIndexAngle()

MILL_GetPrevRotaryIndexAngle()–API Only	
Mill Job	Returns the previous rotational index angle
Mill Turn Job	API: double MILL_GetPrevRotaryIndexAngle()

MILL_GetRotaryIndexClearance()–API Only	
Mill Job	Returns the clearance distance for rotational index moves.
Mill Turn Job	API: double MILL_GetRotaryIndexClearance()

MILL_GetPreviousXAngle()–API Only	
Mill Job	Returns the previous angle of the rotational axis for wrapping, around the X axis.
Mill Turn Job	API: double MILL_GetPreviousXAngle()

MILL_GetPreviousYAngle()–API Only	
Mill Job	Returns the previous angle of the rotational axis for wrapping, around the Y axis.
Mill Turn Job	API: double MILL_GetPreviousYAngle()

MILL_GetSecondRotaryIndexAngle()–API Only	
Mill Job	Returns the current index angle of the second rotary axis.
Mill Turn Job	API: double MILL_GetSecondRotaryIndexAngle()

MILL_GetPrevSecondRotaryIndexAngle()–API Only	
Mill Job	Returns the previous index angle of the second rotary axis. API: double MILL_GetPrevSecondRotaryIndexAngle()
Mill Turn Job	

MILL_GetThirdRotaryIndexAngle()–API Only	
Mill Job	Returns the current index angle of the third rotary axis. API: double MILL_GetThirdRotaryIndexAngle()
Mill Turn Job	

MILL_GetPrevThirdRotaryIndexAngle()–API Only	
Mill Job	Returns the previous index angle of the third rotary axis. API: double MILL_GetPrevThirdRotaryIndexAngle()
Mill Turn Job	

MILL_Get_PrevPRot()–API Only	
Mill Job	Returns the previous value for the primary axis of rotation. API: double MILL_Get_PrevPRot()
Mill Turn Job	

MILL_Get_PrevSRot()–API Only	
Mill Job	Returns the previous value for the secondary axis of rotation. API: double MILL_Get_PrevSRot()
Mill Turn Job	

MILL_Get_IVec()–API Only	
Mill Job	Returns the value for the I vector of the toolpath position. API: double MILL_Get_IVec()
Mill Turn Job	

MILL_Get_PrevIVec()–API Only	
Mill Job	Returns the previous value for the I vector of the toolpath position. API: double MILL_Get_PrevIVec()
Mill Turn Job	

MILL_Get_JVec()–API Only	
Mill Job	Returns the value for the J vector of the toolpath position. API: double MILL_Get_JVec()
Mill Turn Job	

MILL_Get_PrevJVec()–API Only	
Mill Job	Returns the previous value for the J vector of the toolpath position. API: double MILL_Get_PrevJVec()
Mill Turn Job	

MILL_Get_KVec()–API Only	
Mill Job	Returns the value for the K vector of the toolpath position. API: double MILL_Get_KVec()
Mill Turn Job	

MILL_Get_PrevKVec()–API Only	
Mill Job	Returns the previous value for the K vector of the toolpath position. API: double MILL_Get_PrevKVec()
Mill Turn Job	

MILL_Get_PClampStatus()–API Only	
Mill Job	Returns the status of the primary rotary axis clamp. 0 = Not Clamped 1 = Clamped API: short MILL_Get_PClampStatus()

MILL_Get_SClampStatus()–API Only	
Mill Job	Returns the status of the secondary rotary axis clamp. 0 = Not Clamped 1 = Clamped API: short MILL_Get_SClampStatus()

MILL_Get_PRotDirection()–API Only	
Mill Job	Returns the direction of the primary rotation axis. 0 = Forward 1 = Reverse API: short MILL_Get_PRotDirection()
Mill Turn Job	

MILL_Get_SRotDirection()–API Only	
Mill Job	Returns the direction of the secondary rotation axis. 0 = Forward 1 = Reverse API: short MILL_Get_SRotDirection()
Mill Turn Job	

MILL_ReturnHeightFeature()–API Only	
Mill Job	Returns the (Top of Feature + Rapid Plane) value to give the return height for the feature in relation to the machining origin. API: double MILL_ReturnHeightFeature()
Mill Turn Job	

MILL_ReturnHeightStock()–API Only	
Mill Job	Returns the (Top of Stock + Clearance Plane) value to give the return height for the feature in relation to the machining origin. API: double MILL_ReturnHeightStock()
Mill Turn Job	

MILL_GetThreadPitch()–API Only	
Mill Job	Returns the user-specified pitch of the thread in tapping. API: double MILL_GetThreadPitch()
Mill Turn Job	

MILL_GetG98G99Mode()–API Only	
Mill Job	Returns 99 or 98 to a variable based on the value applied to line 516 in the post processor. 98 = G98 Mode 99 = G99 Mode API: integer MILL_GetG98G99Mode()
Mill Turn Job	

MILL_GetReturnPlaneDistance()–API Only	
Mill Job	Returns the return plane distance value. API: double MILL_GetReturnPlaneDistance()
Mill Turn Job	

MILL_GetSecurityPlaneDistance()–API Only	
Mill Job	Returns the security plane distance value. API: double MILL_GetSecurityPlaneDistance()
Mill Turn Job	

MILL_GetSystemComment()–API Only	
Mill Job	Returns the system comment for the current feature. API: string MILL_GetSystemComment()
Mill Turn Job	

MILL_GetSequenceNumber()–API Only	
Mill Job	Returns the sequence number of the current line. API: short MILL_GetSequenceNumber()
Mill Turn Job	

MILL_GetOperationType()–API Only	
Mill Job	Returns the current operation type. Drilling 100 = Center Drill 101 = Drill 102 = Tap 103 = Ream 104 = Boring 105 = Chamfer Drill 106 = Counterbore Drill 204 = Chamfer Mill 206 = Counterbore Mill Milling 200 = Profile Rough 201 = Profile Finish 202 = Pocket 203 = Facing
Mill Turn Job	

	204 = Chamfer Mill 205 = 2 Axis Plunge Rough 206 = Counterbore Mill 208 = Tapered Pocket (V-Carve Rough) 209 = 2 Axis Engraving 210 = Thread Mill 212 = Drag Knife 300 = Z Level Rough 301 = Z Level Finish 302 = Planar 303 = Spiral 304 = Radial 305 = 3 Axis Plunge Rough 306 = Advanced Rough 307 = Flatlands 308 = Equidistant 309 = Pencil 310 = 3 Axis Engrave Rough 311 = 3 Axis Engrave Finish 312 = V-Carve Finishing 317 = Steep Shallow 400 = 4 Axis Rotary 401= 4 Axis Rotary Advanced Rough 402 = 4 Axis Rotary Advanced Finish 500 = 5 Axis Toolpaths 600 = Probing Measure 601 = Probing Contact Tool Setter 602 = Probing Non-contact Tool Setter API: short MILL_GetOperationType()

MILL_GetDrillCycleType()–API Only	
Mill Job	Returns the current drill cycle type. This function is used within the drill cycle blocks or the drill point blocks.
Mill Turn Job	0 = Standard Drill 1 = Peck Drill 2 = Fast Peck/Chip Break 3 = Tap 4 = Bore 1 5 = Bore 2 6 = Bore 3/Back Bore 7 = Left Hand Tap 8 = Fine Bore

	API: short MILL_GetDrillCycleType()

MILL_GetCurrentFeatureNumber()–API Only – (Deprecated)	
(Deprecated – currently returns total number of operations set to post in a job. This was typically used before V26 or previous versions before DMS was introduced)	
Mill Job	Returns the number for the current feature, based on the order in the CAM tree. API: short MILL_GetCurrentFeatureNumber()
Mill Turn Job	

MILL_GetCurrentContourNumber()–API Only	
Mill Job	Returns the current contour number. API: short MILL_GetCurrentContourNumber()
Mill Turn Job	

MILL_GetCurrentContourEntityNumber()–API Only	
Mill Job	Returns the number of the entity currently being posted. API: short MILL_GetCurrentContourEntityNumber()
Mill Turn Job	

MILL_GetFirstLineNumber()–API Only	
Mill Job	Returns the first line number. API: short MILL_GetFirstLineNumber()
Mill Turn Job	

MILL_GetCurrentLineNumber()–API Only	
Mill Job	Returns the current line number. API: short MILL_GetCurrentLineNumber()
Mill Turn Job	

LATHE_GetCurrentLineNumber()–API Only	
Lathe Job	Returns the current line number. API: short LATHE_GetCurrentLineNumber()

MILL_GetLineNumberIncrement()–API Only	
Mill Job	Returns the current line number increment value API: short MILL_GetLineNumberIncrement()
Mill Turn Job	

LATHE_GetLineNumberIncrement()–API Only	
Mill Turn Job	Returns the current line number increment value API: short LATHE_GetLineNumberIncrement()
Lathe Job	

LATHE_GetLineNumberWithToolNumber()–API Only	
Mill Turn Job	Returns the tool number based on this formula: Tool Number * 100 + Sequence Number Increment API: short LATHE_GetLineNumberWithToolNumber()
Lathe Job	

LATHE_GetLineNumberWithFinishToolNumber()–API Only	
Mill Turn Job	Returns the tool number based on this formula: Finish Tool Number * 100 + Sequence Number Increment API: short LATHE_GetLineNumberWithFinishToolNumber()
Lathe Job	

MILL_GetFeatureType()–API Only – (Deprecated)	
Deprecated – use Operation type API	
Mill Job	Returns the current feature type. 1 = Center Hole 2 = Hole 3 = Tap 4 = Ream 5 = Counterbore Hole 6 = Counterbore Tap 7 = Counterbore Ream 15 = Roll Tap 16 = Counterbore Roll Tap 18 = Facing 19 = Pocketing, 2D Plunge Rough 20 = Profile 21 = Chamfer Mill 22 = 2D Engrave 23 = Boring 24 = Thread Milling 26 = 2D and 3D Engraving 29 = Planar, 3D Plunge Roughing 30 = Radial 31 = Spiral 32 = Z Level Rough, Advanced Rough 33 = Z Level Finish 34 = Equidistant 37 = Flatlands, Pencil, 4 Axis Rotary, Multiaxis 40 = V-Carve API: short MILL_GetFeatureType()
Mill Turn Job	

LATHE_GetFeatureType()–API Only	
Mill Turn Job	Returns the current operation type. 1001 = Face Rough 1002 = Turn Rough 1003 = Face Pattern Repeat 1004 = Turn Pattern Repeat 1005 = Face Basic Finish 1006 = Turn Basic Finish 1007 = Face Groove 1008 = Turn Groove
Lathe Job	

	1009 = Face Groove Finish 1010 = Turn Groove Finish 1011 = Lathe Thread 1012 = Cut Off 1013 = Stock Feed API: string LATHE_GetFeatureType()

LATHE_GetCycleType()–API Only	
Lathe Job	Returns a value that identifies the feature type. 1 = Turning Rough 2 = Turning Rough/Finish 3 = Face Rough 4 = Face Rough/Finish API: short LATHE_GetCycleType()

MILL_Get_TopOfPart()–API Only	
Mill Job	Returns the top of feature value for the current feature. API: double MILL_Get_TopOfPart()
Mill Turn Job	

MILL_Get_FeedPlane()–API Only	
Mill Job	Returns the feed plane value for the current feature. API: double MILL_Get_FeedPlane()
Mill Turn Job	

MILL_GetWorkPieceName()–API Only	
Mill Job	Returns the workpiece name. API: string MILL_GetWorkPieceName()
Mill Turn Job	

MILL_GetOutputSubPrograms()–API Only	
Mill Job	Returns wether the subprograms are ON or OFF. 0 = Do Not Output Subs 1 = Output Subs API: short MILL_GetOutputSubPrograms()
Mill Turn Job	

MILL_GetGlobalStockHeight()–API Only	
Mill Job	Returns the global stock height for all operations in the CAM tree. API: double MILL_GetGlobalStockHeight()
Mill Turn Job	

MILL_GetFeatureStockHeight()–API Only	
Mill Job	Returns the feature stock height for the current feature. API: double MILL_GetFeatureStockHeight()
Mill Turn Job	

MILL_GetNumberOfContours()–API Only	
Mill Job	Returns the total number of profiles assigned to operations in the CAM tree. API: short MILL_GetNumberOfContours()
Mill Turn Job	

MILL_GetNumberOfContourEntities()–API Only	
Mill Job	Returns the total number of entities in a given shape. API: short MILL_GetNumberOfContourEntities()
Mill Turn Job	

MILL_GetNumberOfFeatures()–API Only – Deprecated	
Deprecated – currently returns the total number of operations set to post in a job. This was typically used before V26 or previous versions before DMS was introduced	
Mill Job	Returns the total number of features in the program. API: short MILL_GetNumberOfFeatures()
Mill Turn Job	

MILL_GetNumberOfOperations()–API Only	
Mill Job	Returns the total number of operations in the program that is set to post. This API will not consider the operations that were patterned using toolpath pattern. For versions V26 or earlier, there were 2 APIs MILL_GetNumberOfFeatures() & MILL_GetCurrentFeatureNumber() which are deprecated and when used in versions after V26 will return the same value as the MILL_GetNumberOfOperations() API API: short MILL_GetNumberOfOperations()
Mill Turn Job	

MILL_GetToolOffsetNumber()–API Only	
Mill Job	Returns the tool offset number for the current operation. API: short MILL_GetToolOffsetNumber()
Mill Turn Job	

MILL_GetNextToolOffsetNumber()–API Only	
Mill Job	Returns the offset number for the next tool in the program. If this function is used on the last tool in the program, it returns the offset number for the first tool in the program. API: short MILL_GetNextToolOffsetNumber()
Mill Turn Job	

MILL_Get_ToolType()–API Only	
Mill Job	Returns the type of the current tool.

Mill Turn Job	Drilling 1 = Center Drill 2 = Drill 4 = Spiral Tap 5 = Point Tap 6 = Hand Tap 7 = Rolling Tap 8 = Chamfer Tool 9 = Counterbore Drill 13 = Ream 21 = Boring Tool Milling 15 = Endmill Rough 16 = Endmill Finish 19 = Chamfer Mill 22 = Thread Mill 23 = V-Tool 24 = Tapered Endmill 26 = T-Cutter 30 = Dove Mill 31 = Lollipop 25 = Corner Round 27 = Laser 28 = Plasma 29 = Waterjet 33 = Drag Knife API: short MILL_Get_ToolType()

MILL_GetSysOffsetSide()–API Only	
Mill Job	Returns what direction the system compensation is set to for a profile feature. 0 = None 1 = Left 2 = Right API: short MILL_GetSysOffsetSide()
Mill Turn Job	

MILL_GetLeadinType()–API Only	
Mill Job	Returns the Lead-In type for the current operation.

Mill Turn Job	0 = Circular for all 2 and 3 Axis feature, Except for Thread. Thread = Helical. 1 = Circular for Thread 2 = Right Angle 3 = Parallel for 2 Axis features, Tangent for 3 Axis features 6 = Vertical/Plunge 7 = Horizontal 8 = Parallel for all 3 Axis features. API: short MILL_GetLeadinType()

MILL_GetLeadoutType()–API Only	
Mill Job	Returns the Lead-Out type for the current operation. 0 = Circular for all 2 and 3 Axis feature, Except for Thread. Thread = Helical. 1 = Circular for Thread 2 = Right Angle 3 = Parallel for 2 Axis features, Tangent for 3 Axis features 6 = Vertical/Plunge 7 = Horizontal 8 = Parallel for all 3 Axis features. API: short MILL_GetLeadoutType()
Mill Turn Job	

MILL_GetOffsetAmount()–API Only	
Mill Job	Returns the amount that the current path is offset from the contour. API: double MILL_GetOffsetAmount()
Mill Turn Job	

MILL_Get_LengthOffsetMode()–API Only	
Mill Job	Returns the current length offset mode. 0 = No TCP 1 = TCP API: short MILL_Get_LengthOffsetMode()
Mill Turn Job	

MILL_Get_PrevLengthOffsetMode()–API Only	
Mill Job	Returns the previous length offset mode. 0 = No TCP 1 = TCP API: short MILL_Get_PrevLengthOffsetMode()
Mill Turn Job	

MILL_GetWorkCoordName()–API Only	
Mill Job	Returns the name of the work offset as specified on lines 901 through 999. API: string MILL_GetWorkCoordName()
Mill Turn Job	

MILL_GetPatternWorkCoordNumber()–API Only	
Mill Job	Returns the work offset number (1, 2, 3, etc.). This function returns from a 0 based index, so choosing Work Offset 1 in the software returns 0 in the API. API: short MILL_GetPatternWorkCoordNumber()
Mill Turn Job	

MILL_GetPatternWorkCoordName()–API Only	
Mill Job	Returns the name of the work offset as specified on lines 901 through 999. API: string MILL_GetPatternWorkCoordName()
Mill Turn Job	

MILL_Get_OutputCoordinateMode()–API Only	
Mill Job	Returns a value to determine what move list coordinates options is selected in the Multiaxis Posting page of the Current Settings dialog box.
Mill Turn Job	0 = Absolute (Without TLC) – No Machine Compensation 1 = Absolute (With TLC) – Machine Compensation in Z Only 2 = New Mode – Machine Hybrid Compensation (Mixed Mode) 3 = Relative – Part Based (Common for TCP) API:

	short MILL_Get_OutputCoordinateMode()

MILL_GetMachiningOrder()–API Only	
Mill Job	Returns a value to determine the Machining Order that is selected in the software. 1 = Individual Feature 2 = Individual Tool Per Machine Setup 3 = Individual Tool API: short MILL_GetMachiningOrder()
Mill Turn Job	

RunBlock_xxxx	
Mill Turn Job	Used to direct the posting engine to execute the postlines found in the specified postblock. The "xxxx" is the block number for the postblock to be executed.

MILL_MakeRealString(*double var*)–API Only	
Mill Job	Returns a string converted from a double value formatted by post blocks 414 or 415 depending on the unit. API: void MILL_MakeRealString(double *var*)
Mill Turn Job	

MILL_MakeXString(*double var*)–API Only	
Mill Job	Returns a string converted from a double value formatted by post blocks 414 or 415 depending on the unit. The prefix is added to the string from post question: 684. API: void MILL_MakeXString(*double var*)
Mill Turn Job	

MILL_MakeYString(*double var*)–API Only	
Mill Job	Returns a string converted from a double value formatted by post blocks 414 or 415 depending on the unit. The prefix is added to the string from post question: 685. API: void MILL_MakeYString(*double var*)
Mill Turn Job	

MILL_MakeZString(*double var*)–API Only	
Mill Job	Returns a string converted from a double value formatted by post blocks 414 or 415 depending on the unit. The prefix is added to the string from post question: 686. API: void MILL_MakeZString(*double var*)
Mill Turn Job	

MILL_GetNumberOfIntMemoryLoc()–API Only	
Mill Job	Returns the number of integer memory locations. API: short MILL_GetNumberOfIntMemoryLoc()
Mill Turn Job	

MILL_GetNumberOfDoubleMemoryLoc()–API Only	
Mill Job	Returns the number of double memory locations. API: short MILL_GetNumberOfDoubleMemoryLoc()
Mill Turn Job	

MILL_GetNumberOfStringMemoryLoc()–API Only	
Mill Job	Returns the number of string memory locations. API: short MILL_GetNumberOfStringMemoryLoc()
Mill Turn Job	

MILL_SetIntMemoryLoc(*short Index, short SetInteger*)–API Only **LATHE_SetIntMemoryLoc(*short Index, short SetInteger*)–API Only**	
Mill Job	Sets the memory location at the specified index to the value specified for SetInteger. Note that both share the same memory locations API: MILL_SetIntMemoryLoc(*Index, SetInteger*)
Mill Turn Job	
Lathe Job	LATHE_SetIntMemoryLoc(*Index, SetInteger*)

MILL_GetIntMemoryLoc(*short index*)–API Only **LATHE_GetIntMemoryLoc(*short index*)–API Only**	
Mill Job	Returns the integer value stored in the specified index. Note that both share the same memory locations API: *variable_name* = MILL_GetIntMemoryLoc(*short index*)
Mill Turn Job	
Lathe Job	*variable_name* = LATHE_GetIntMemoryLoc(*short index*)

MILL_SetDoubleMemoryLoc(*short Index, double SetDouble*)–API Only **LATHE_SetDoubleMemoryLoc(*short Index, double SetDouble*)–API Only**	
Mill Job	Sets the memory location at the specified index to the value specified in SetDouble. Note that both share the same memory locations API: void MILL_SetDoubleMemoryLoc(*short Index, double SetDouble*)
Mill Turn Job	
Lathe Job	void LATHE_SetDoubleMemoryLoc(*short Index, double SetDouble*)

MILL_GetDoubleMemoryLoc(*short index*)–API Only **LATHE_GetDoubleMemoryLoc(*short index*)–API Only**	
Mill Job	Returns the double value stored in the specified index. Note that both share the same memory locations
Mill Turn Job	API: *variable_name* = MILL_GetDoubleMemoryLoc(*short index*)
Lathe Job	*variable_name* = LATHE_GetDoubleMemoryLoc(*short index*)

MILL_SetStringMemoryLoc(*short Index, string SetString*)–API Only **LATHE_SetStringMemoryLoc(*short Index, string SetString*)–API Only**	
Mill Job	Sets the memory location at the specified index to the value specified in SetString. Note that both share the same memory locations API: void MILL_SetStringMemoryLoc(*short Index, string SetString*)
Mill Turn Job	
Lathe Job	void Lathe_SetStringMemoryLoc(*short Index, string SetString*)

MILL_GetStringMemoryLoc(*short index*)–API Only

LATHE_GetStringMemoryLoc(*short index*)–API Only	
Mill Job	Returns the string value stored in the specified index. Note that both share the same memory locations API: *variable_name* = MILL_GetStringMemoryLoc(*short index*) *variable_name* = LATHE_GetStringMemoryLoc(*short index*)
Mill Turn Job	
Lathe Job	

Return Functions

MILL_GetOutputLineToNcFile()–API Only	
Mill Job	Returns a single line of the posted code to a string variable. This is used in program block 2102, and block 540 must be set to "y". This allows the user to modify the code after it has been processed through the posting engine. API: string MILL_GetOutputLineToNcFile()
Mill Turn Job	

LATHE_GetOutputLineToNcFile()–API Only	
Mill Job	Returns a single line of the posted code to a string variable. This is used in program block 2102, and block 540 must be set to "y". This allows the user to modify the code after it has been processed through the posting engine. API: string LATHE_GetOutputLineToNcFile()
Mill Turn Job	

MILL_SetOutputLineToNcFile(*string var*)–API Only	
Mill Job	Sets the string to be output in the posted program followed by a carriage return/line feed. API: void MILL_SetOutputLineToNcFile(*string var*)
Mill Turn Job	

LATHE_SetOutputLineToNcFile(*string var*)–API Only	
Mill Job	Sets the string to be output in the posted program followed by a carriage return/line feed. API: void LATHE_SetOutputLineToNcFile(*string var*)
Mill Turn Job	

MILL_SetReturnString(*string var*)–API Only **LATHE_SetReturnString(*string var*)–API Only**	
Mill Job	Sets the return string to be output by the program block variable. For the case that the block outputs code within an existing posting line, meaning the program block is being used to output for a single variable. (Example: n, rapid_move, program_block_1, xr, yr) API: void MILL_SetReturnString(*string var*)
Mill Turn Job	
Lathe Job	Sets the return string to be output by the program block variable. For the case that the block outputs code within an existing posting line, meaning the program block is being used to output for a single variable. (Example: “n, rapid_move, program_block_1, xr, yr”) API: LATHE_SetReturnString(*variable_name*)

Output String Functions

MILL_OutputText(*string var*)–API Only	
Mill Job	Outputs a string into the posted program with a line feed character. API: void MILL_OutputText(*string var*) void MILL_OutputText(“Sample String”)
Mill Turn Job	

LATHE_OutputText(*string var*)–API Only	
Mill Turn Job	Outputs a string into the posted program with a line feed character. API: void LATHE_OutputText(*string var*) void LATHE_OutputText(“Sample String”)
Lathe Job	

MILL_ProcessPostLine(*string var*)–API Only **LATHE_ProcessPostLine(*string var*)–API Only**	
Mill Job	Input must be a string formatted exactly as a posting line using system posting variables. (Example: “n, rapid_move, xr, yr, ‘M08’”). The system post processes these variables as it would by using the posting engine and outputs the posted string to the posted NC file. API:
Mill Turn Job	

	void MILL_ProcessPostLine(*string var*)
Lathe Job	Input must be a string formatted exactly as a posting line using system posting variables. (Example: “n, rapid_move, xr, yr, ‘M08’”). The system post processes these variables as it would by using the posting engine and outputs the posted string to the posted NC file. API: void LATHE_ProcessPostLine(*string var*)

Advanced Posting Page Functions

MILL_GetUserCheckBoxVariable(*short index*)–API Only **LATHE_GetUserCheckBoxVariable(*short index*)–API Only**	
Mill Job	Returns the state of the check box at the specified index from the Advanced Posting page inside of a machining feature. 0 = Not Selected 1 = Selected API: *variable_name* = MILL_GetUserCheckBoxVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the selected index of the specified combo box in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = LATHE_GetUserCheckBoxVariable(*short Index*)

MILL_GetUserSelectComboVariable(*short index*)–API Only **LATHE_GetUserSelectComboVariable(*short index*)–API Only**	
Mill Job	Returns the selected index of the specified combo box in the Advanced Posting page inside of a machining feature. API: *variable_name* = MILL_GetUserSelectComboVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the selected index of the specified combo box in the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserSelectComboVariable(*short index*)

MILL_GetUserEditIntegerVariable(*short index*)–API Only **LATHE_GetUserEditIntegerVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = MILL_GetUserEditIntegerVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditIntegerVariable(*short index*)

MILL_GetUserEditRealVariable(*short index*)–API Only **LATHE_GetUserEditRealVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = MILL_GetUserEditRealVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditRealVariable(*short index*)

MILL_GetUserEditStringVariable(*short index*)–API Only **LATHE_GetUserEditStringVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = MILL_GetUserEditStringVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditStringVariable(*short index*)

Advanced Posting Pages for Current Settings

MILL_GetUserCheckBoxSettingsVariable(*short index*)–API Only **LATHE_GetUserCheckBoxSettingsVariable(*short index*)–API Only**	
Mill Job	Returns the state of the check box at the specified index in the Advanced Posting page of the Current Settings dialog box. 0 = Not Selected 1 = Selected API: *variable_name* = MILL_GetUserCheckBoxSettingsVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the state of the check box at the specified index from the Advanced Posting page inside of the current settings dialog box. 0 = Not Selected 1 = Selected API: *variable_name* = LATHE_GetUserCheckBoxSettingsVariable(*short index*)

MILL_GetUserSelectComboSettingsVariable(*short index*)–API Only **LATHE_GetUserSelectComboSettingsVariable(*short index*)–API Only**	
Mill Job	Returns the selected index of the specified combo box in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = MILL_GetUserSelectComboSettingsVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the selected index of the specified combo box in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = LATHE_GetUserSelectComboSettingsVariable(*short index*)

MILL_GetUserEditIntegerSettingsVariable(*short index*)–API Only **LATHE_GetUserEditIntegerSettingsVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = MILL_GetUserEditIntegerSettingsVariable(*short index*)
Mill Turn Job	

Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditIntegerSettingsVariable(*short index*)

MILL_GetUserEditRealSettingsVariable(*short index*)–API Only **LATHE_GetUserEditRealSettingsVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = MILL_GetUserEditRealSettingsVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditRealSettingsVariable(*short index*)

MILL_GetUserEditStringSettingsVariable(*short index*)–API Only **LATHE_GetUserEditStringSettingsVariable(*short index*)–API Only**	
Mill Job	Returns the value entered in the edit box at the specified index in the Advanced Posting page of the Current Settings dialog box. API: *variable_name* = MILL_GetUserEditStringSettingsVariable(*short index*)
Mill Turn Job	
Lathe Job	Returns the value entered in the edit box at the specified index from the Advanced Posting page inside of a machining feature. API: *variable_name* = LATHE_GetUserEditStringSettingsVariable(*short index*)