

RoboDK Plug-In for Mastercam

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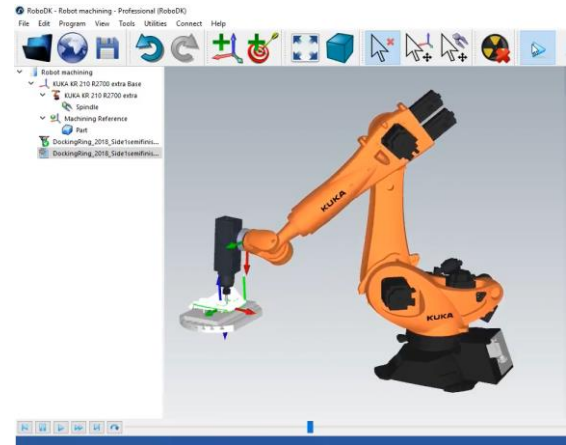
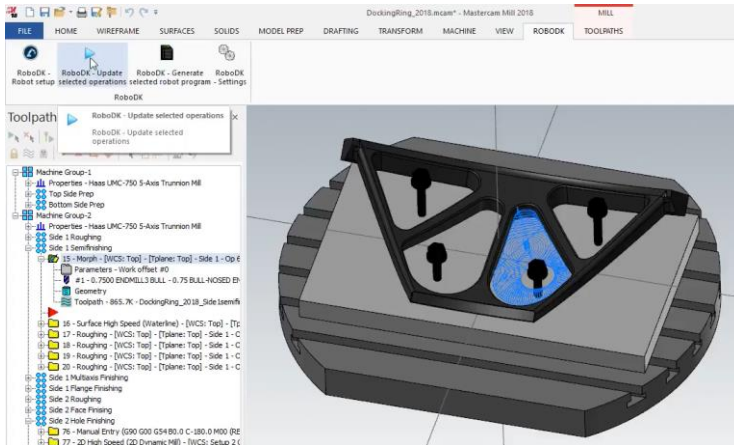
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Introduction

The RoboDK plugin for Mastercam allows you to quickly set up robot machining projects directly from Mastercam. With this plugin you can easily combine Mastercam software for machining and RoboDK for simulation and offline programming of industrial robot arms.

With this Mastercam plugin you can easily generate error-free programs for robot machining directly from Mastercam. Alternatively, RoboDK also supports NCI (native preprocessed Mastercam files), and standard APT CLS and G-code files.



More information about RoboDK for robot machining is available in the [Robot Machining Section](#).

Video: The following video shows a quick overview of the RoboDK plugin for Mastercam: <https://www.youtube.com/watch?v=wdpQ76OGS5I>

This document describes how to set up the plugin for Mastercam and how to use the Mastercam toolbar to set up the robot machining project in RoboDK.

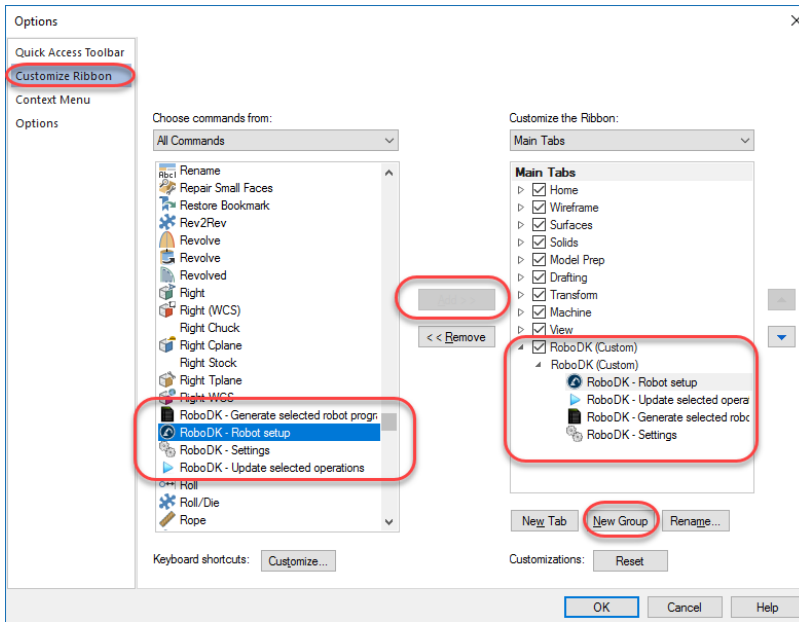
Tip: Read the following post to better understand the differences between a CNC and a robot for machining: <https://robodk.com/blog/robot-machining-vs-cnc/>

Plug-In set up

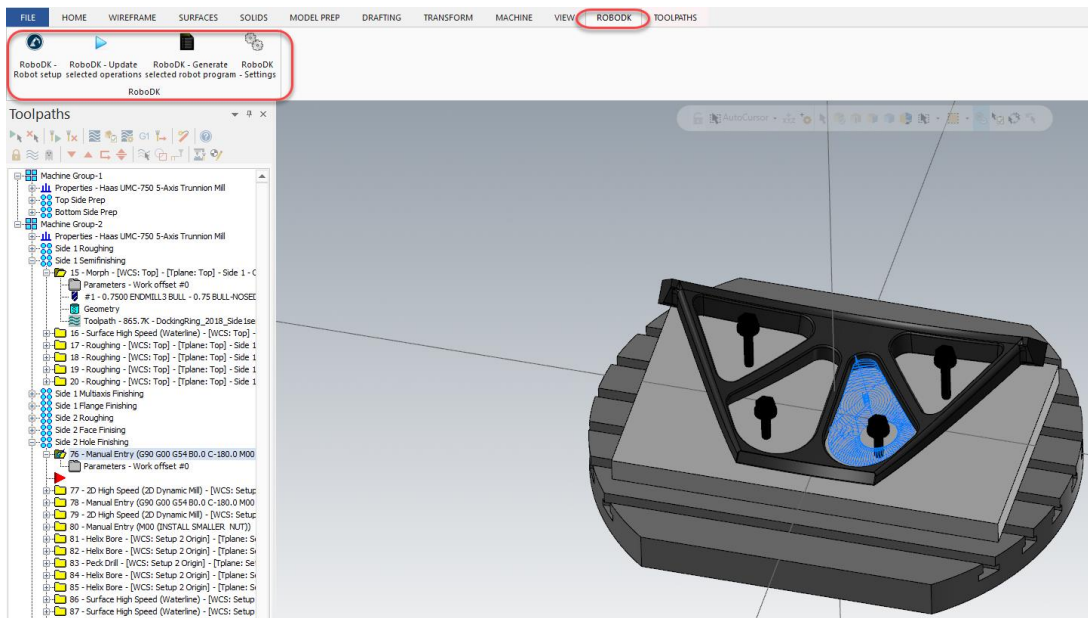
Follow these steps to set up the RoboDK plugin for Mastercam:

1. Start Mastercam.
2. Set up the RoboDK commands:
 - a. Select **File**→**Options**.
 - b. Select **Customize Ribbon**.
 - c. Add the selected commands as shown in the image.

Note: If you don't see the RoboDK commands in Mastercam you should follow the instructions to [install the plug-in manually](#).



Mastercam will then show the RoboDK tab as shown in the following image.



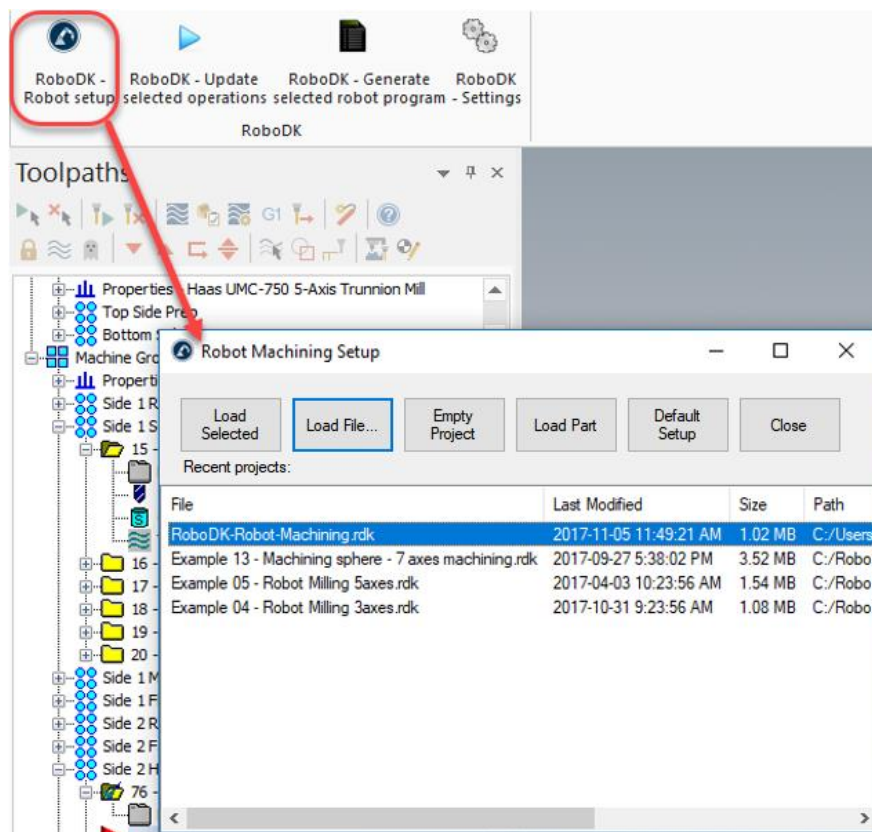
Commands

Robot setup

The **Robot setup** button opens a new window and allows opening an existing robot machining project or set up a new robot machining project. The goal of the robot setup is to select the robot, load/model the tool and add at least one reference frame. The following options are available:

- Load Selected: Load a previous project used in RoboDK (RDK file)
- Load File...: Select a file to open it with RoboDK and use it as the default project with the current Mastercam project.
- Empty Project: Open RoboDK with a new empty screen to let the user build a new setup. More information to set up a new project from scratch available in the [Getting Started section](#).
- Load Part: Load the part from Mastercam to RoboDK (the part will be saved as an STL file and loaded automatically).
- Default Setup: Set up new station with a default robot, spindle and reference frame. The part will also be automatically exported to RoboDK.

For more information about building a new setup visit the [robot machining section](#).



It is also possible to change the robot, modify the tool and/or the reference frame. As an example, follow these steps to change the robot:

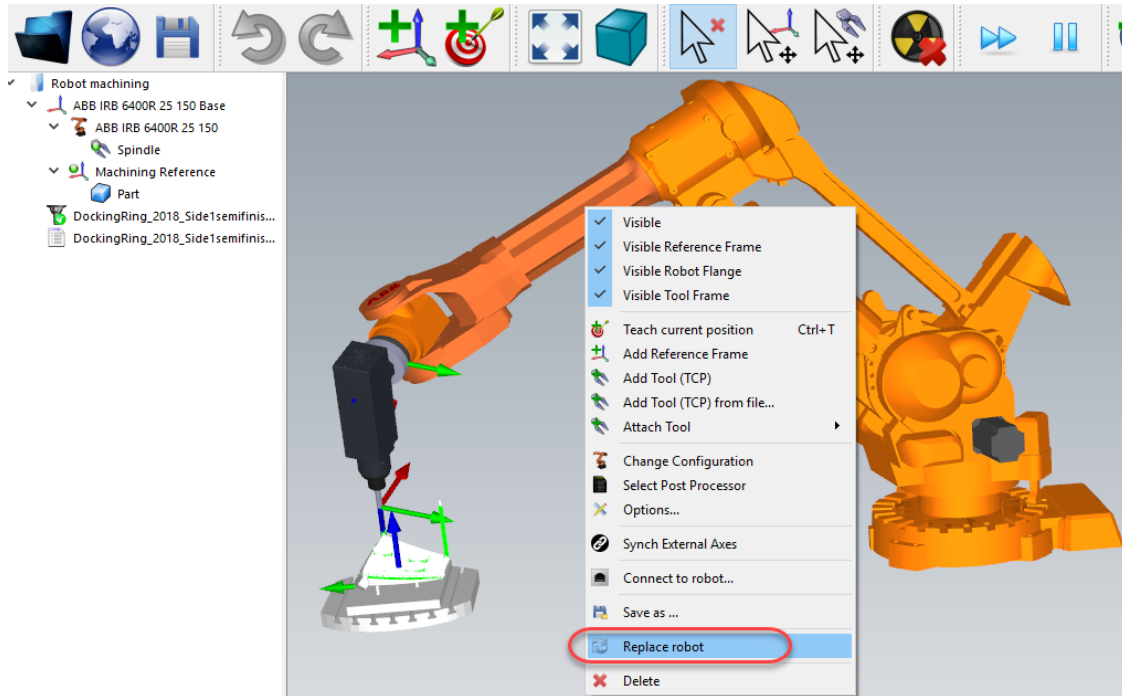
1. Right click a robot
2. Select **Replace robot** (as shown in the image)
3. Select the new robot

The RoboDK installer only provides a few robots by default, however, it is possible to download more robots from the [online library](#).


More information about adding a robot tool is available in the [Getting Started Section](#).

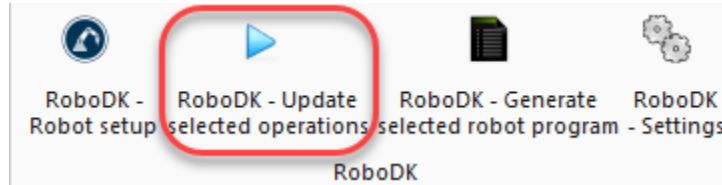
Tip: Hold the **Alt** key to move a reference frame or a robot. Hold **Alt+Shift** to move a robot tool (TCP).

Save the project to keep the changes by selecting **File→Save Station (Ctrl+S)**.




Update selected operation(s)

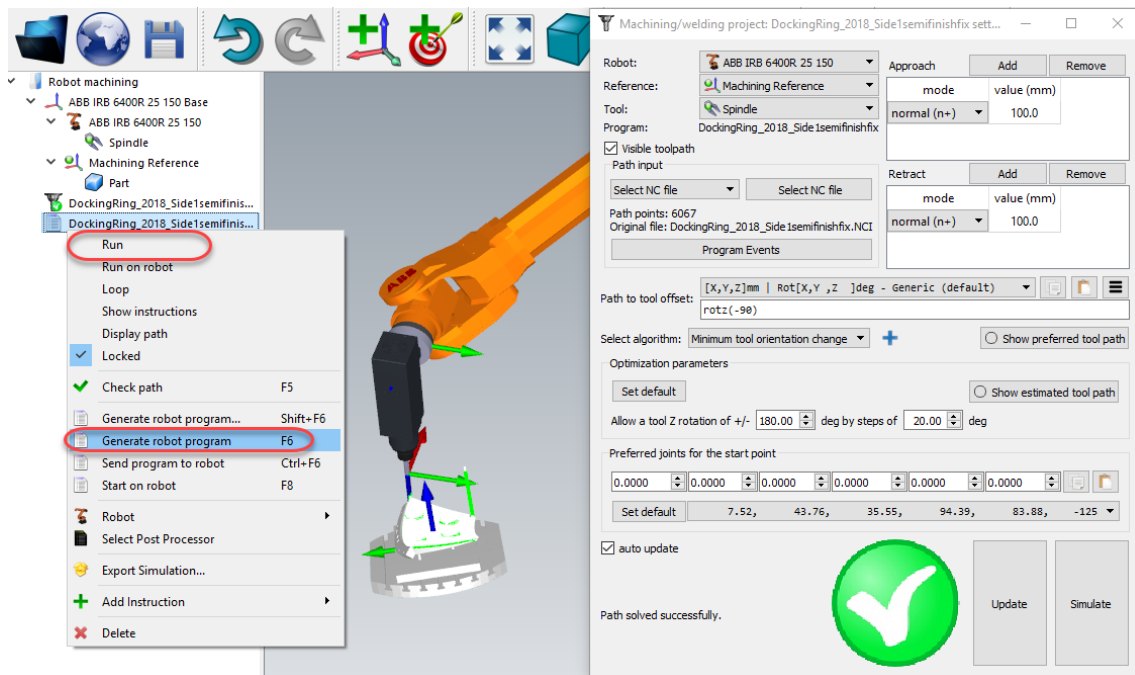
Select **Update selected operations**  to generate the toolpath for the selected operations and simulate them in RoboDK.



This action will attempt to obtain the robot machining program for the selected operations. A green check mark will be displayed if the program is feasible with the selected robot. If there are any issues (such as singularities, axis limits or reach issues), a red mark will be displayed.


Double click the robot machining project  to open the robot machining settings specific to one operation. More information about the robot machining settings available in the [Robot Machining section](#).

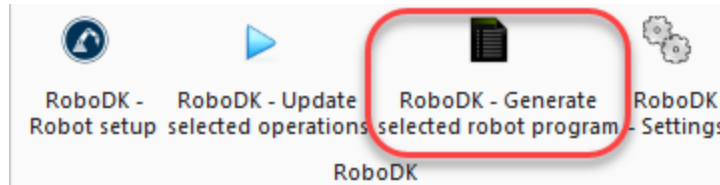
Right click a program and select **Run** to simulate it (or double click the program). You can also select **Generate robot program (F6)** to obtain the robot program that needs to be loaded on the robot controller. More information about how to generate robot programs is available in the [Offline Programming section](#).



If desired, right click a program and select **Select Post Processor** to change the post processor. More information about post processors available in the [post processors section](#).

Generate robot programs from Mastercam

It is possible to generate robot programs from directly from Mastercam once the station has been saved. To do so, select **Generate selected robot program** . This option will update the robot program according to the machining toolpath defined in Mastercam.




RoboDK will not be displayed unless there are program issues.

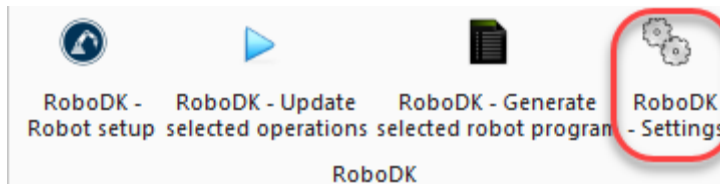
This button can be used even if RoboDK is not running.

Robot programs are saved on the Desktop by default. Follow these steps in RoboDK to change this setting:

1. Select Tools-Options
2. Select Other
3. Select Set in the **Robot programs folder**

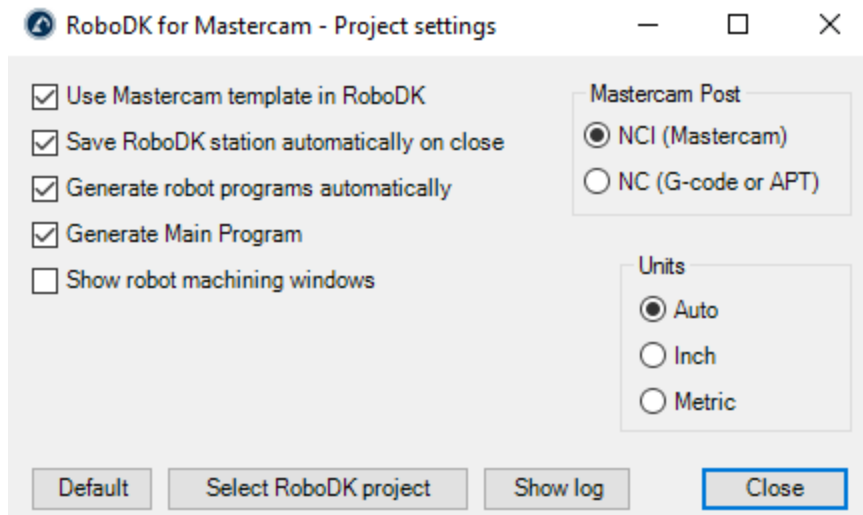
Plugin Settings

Select **RoboDK Settings**  to open the settings related to the RoboDK plugin for Mastercam.



Among other things, you can modify the following options:

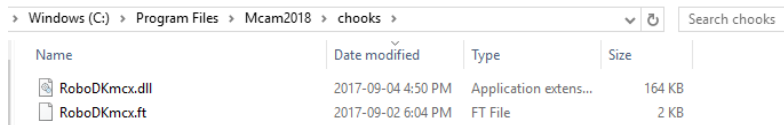
1. Use the Mastercam template instead of RoboDK template (the 3D navigation and color templates in RoboDK will match Mastercam style).
2. Save the RoboDK station automatically when RoboDK is closed.
3. Generate a Main program for projects with more than one program.
4. Use NC files (such as APT or G-code) instead of NCI files. RoboDK can read the following files to generate robot programs:
 - a. NCI: Mastercam native toolpath.
 - b. G-code files (requires a generic 5-axis post processor).
 - c. APT files (requires a post processor).
5. Select the active project. It is possible to specify a default RoboDK project (RDK file) to automatically display simulations or generate robot programs.



Generate robot programs from Mastercam

These are manual steps to setup the RoboDK plug-in for Mastercam. You should follow these steps if the RoboDK plug-in for Mastercam was not automatically installed by default using the RoboDK installer:

1. Install or update RoboDK:
<https://robodk.com/download>
2. Download the files: **RoboDKmcx.dll** and **RoboDKmcx.ft** From the following link:
<https://robodk.com/downloads/chooks-Mastercam-Plugin-RoboDK.zip>
And copy them to the folder:
C:\Program Files\Mcam2018\chooks



3. Right click the **RoboDKmcx.dll** file and select Properties.
4. Check **Unblock** and select **Apply**, as shown in the following image.

