

# About Motoman MRC/XRC Translators



This section provides basic information about the Motoman MRC/XRC translator. The information includes:

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## Controller Profiles

Every robot controller has certain profiles each of which define characteristics of different aspects of the controller. By default, controllers by the name **Default** are defined for Motion, Tool, Accuracy and Object Profile.

A Motoman MRC/XRC robot must have Tool Profiles created before uploading.

Please see *Device Task Definition: Workbench Description: Robot Controller Toolbar* for more information on controller profiles.

## Applicative Profiles

User Applicative Profiles can be used to define Process information.

Please see *Device Building: Advanced Tasks: Creating and Editing Profiles: Creating Applicative Profiles* for more details.

## Action Libraries

Action libraries consist of a sequence of activities that can be used to perform specific operations such as spot welding. The MRCSpotWeld action library is provided for Motoman MRC/XRC controller.

Please see *Device Task Definition: User Tasks: Device Task Programming Tasks: Creating and Modifying an Action Library* for more details.

## Robot Parameter Data

Robot parameter data informs the translator about the user's special requirements. See [Robot Parameter Map](#) section for supported parameters.



The following procedure describes how to define device parameters.

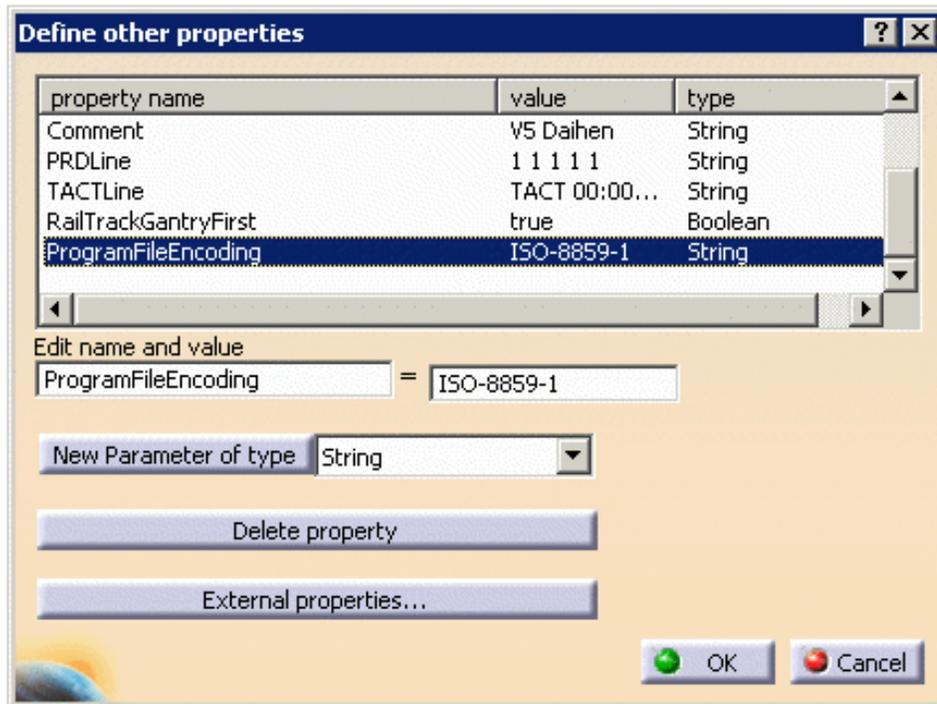


Open the [MotomanStart.CATProcess](#) file.



1. Right-click robot SK6.1 in the PPR tree and select **Properties**. The properties dialog box opens.
2. Click the **Define other properties** button.

The **Define Other Properties** dialog box opens.



3. Select the type of parameter from the list and click the **New Parameter of type** button.  
The newly created parameter appears in box listing the parameters (for example, in the dialog box above, **ProgramFileEncoding** has been added).
4. In the **Edit name and value** field, enter a name and value as required.
5. Or instead, you can skip steps 3-4 and import parameters from a .txt file using **External properties**. The .txt file must have the following format:

```
parameter_name      parameter_value
.....              .....
```



## Program Logic/IO

Input/Output signals are used to communicate between resources and synchronize multiple resource simulations.

Please see *Workcell Sequencing: Workbench Description: IO Management Toolbar* for more details.

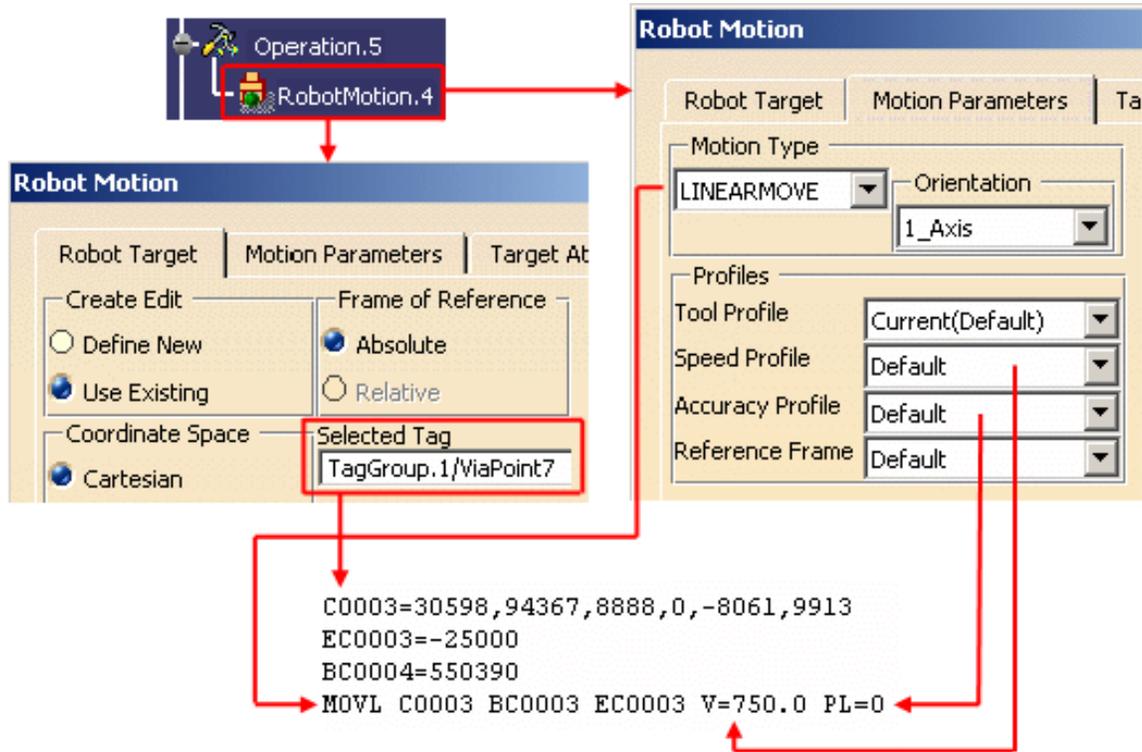
## Weld Guns

A servo weld gun is defined as an external axis of a robot, and used with **MRCSpotWeld** action library .

Servo guns are supported by generating an **SVSPOT** command following a motion statement. Each **MRCSpotWeld** and **MRCSpotDry** action should follow a robot motion operation and be followed by another robot motion operation. In addition to robot positions, the leading robot motion specifies the gun position before the weld and the following one specifies the gun position after the weld.

## Syntax Map

Please refer to the Robot Command Syntax Map worksheet in the [MotomanV5xmlMap.xls](#) file. Tags and controller profiles affect the translation from V5 robot motion activities to Inform II motion statements, and are illustrated below:



## Robot Parameter Map

Refer to the Parameter Data worksheet in the [MotomanV5xmlMap.xls](#) file.

## Spot Welding Application

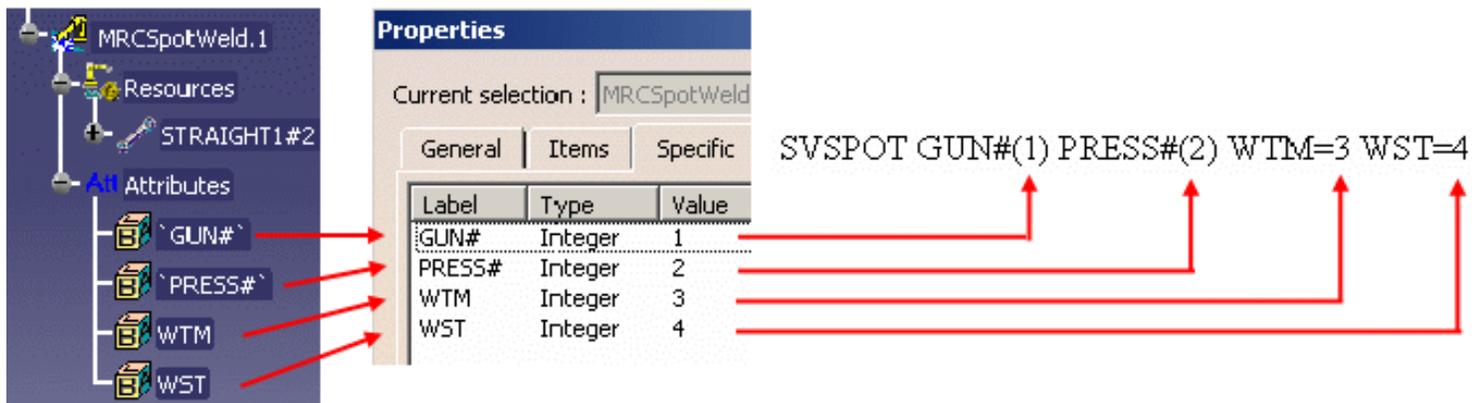
This section illustrates the translation of V5 spot actions to Inform II commands. The table below shows the syntax map for V5 MRC Spot actions and Inform II commands:

V5 MRC Spot Action	Inform II Command
MRCSpotWeld	SVSPOT GUN#(1) PRESS#(2) WTM=3 WST=4
MRCSpotDry	SVGUNCL GUN#(1) PRESSCL#(2) [TWC-A]
MRCSpotToolPick	GUNCHG GUN#(1) PICK
MRCSpotToolPlace	GUNCHG GUN#(1) PLACE

Create a V5 MRC spot action, for e.g., MRCSpotWeld.

Please see *Device Task Definition: Workbench Description: Action Library Toolbars: Creating a Spot Weld Action* for more details.

Below is the illustration of V5 spot weld action to Inform II spot translation:



## Arc Welding Application

The table below shows the syntax map for V5 User Profile and Inform II Arc command mapping:

V5 User Profiles	Inform II ARC Commands
ARCStart profile	ARCON AC=200 AVP=100 T=.5 V=80 AC : current (A) AVP : voltage percent T : delay time (S) V: speed (cm/min) RETRY
ARCStart profile named file_asyNUM	ARCON ASF#(<index>) ASF - reference to file
ARCEnd profile	ARCOF AC=30 AVP=90 T=.5 ANTSTK AC : current (A) AVP : voltage percent T : delay time (S) ANTSTK stick release
ARCEnd profile name file_aeNUM	ARCOF AEF#(<index>)  AEF - reference to file