

Subject: Report of RT ToolBox2 Version 3.60N release**Applicable to:** F series, SQ series, SD series, S series
(CR750/CRnQ-700/CRnD-700/CRn-500 series robot controller)

Thank you for your continued support of Mitsubishi industrial robot “MELFA”.

This Technical news describes the new version 3.60N of the RT ToolBox2.
3D-11C-WINJ(E/C/T)/3D-12C-WINJ(E/C/T)

In order to use the functions described in this technical news, you need to download the latest version from MITSUBISHI ELECTRIC FA site, and upgrading the RT ToolBox2.

1. Model addition

The following models were added.

< RV-F Load maximum: 100Kg / Logistics specification >

RV-100TFH-D/Q

< RV-F Load maximum: 100Kg · Long arm / Logistics specification >

RV-100TFHL-D/Q

< RV-F Load maximum: 150Kg / Logistics specification >

RV-150TFH-D/Q

< RV-F Load maximum: 150Kg · Long arm / Logistics specification >

RV-150TFHL-D/Q

< RH-F Load maximum: 3Kg >

RH-3CH4018-D

< RH-F Load maximum: 6Kg >

RH-6CH6020-D

2. Computer system

- The support of Windows 2000 is finished and support of Windows10 is started.

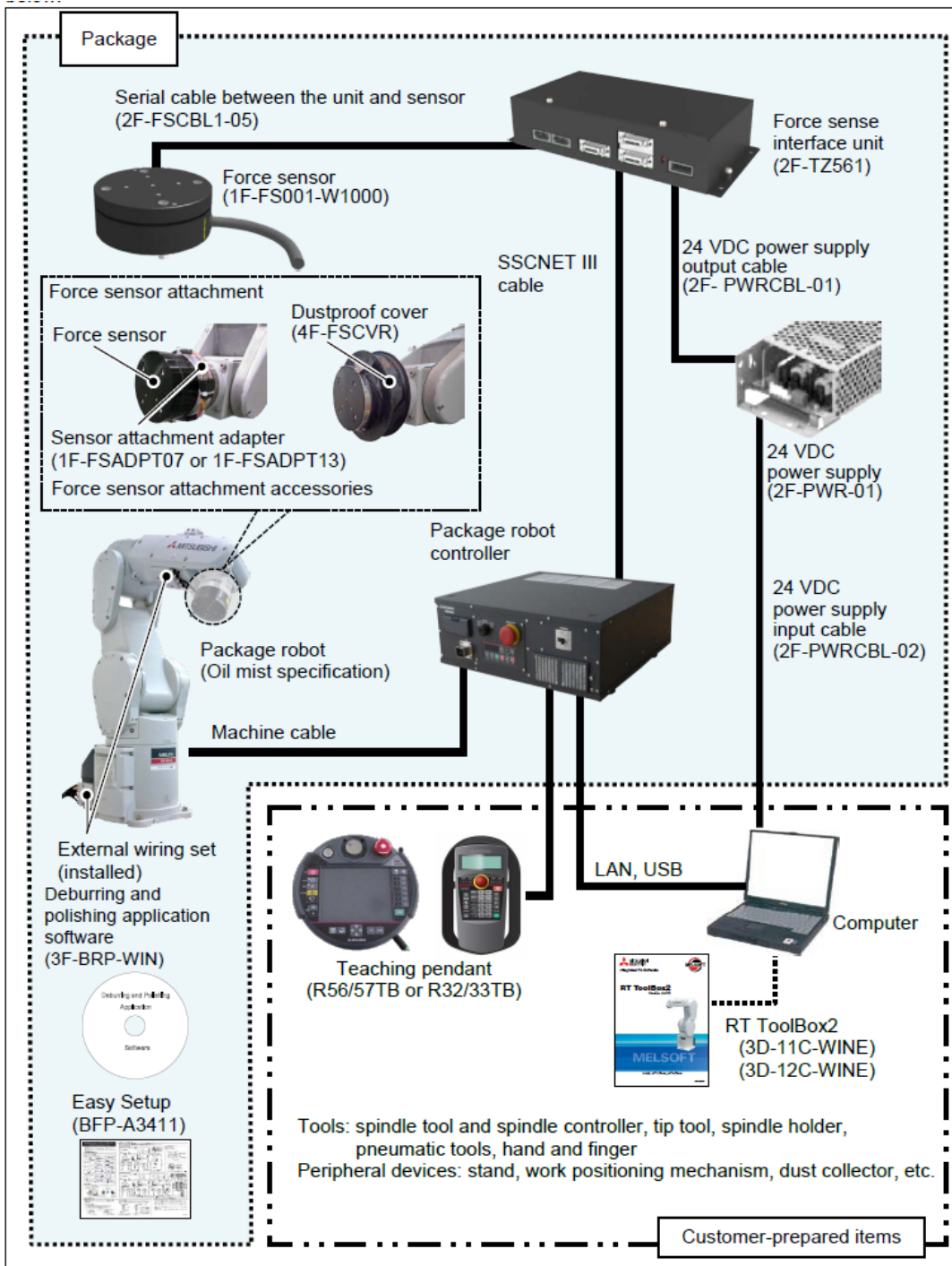
3. MELFA-3D Vision

- MELFA-3D vision Ver.1.2 is supported.

4. Application package

● Deburring and polishing application package. (Japanese version only)

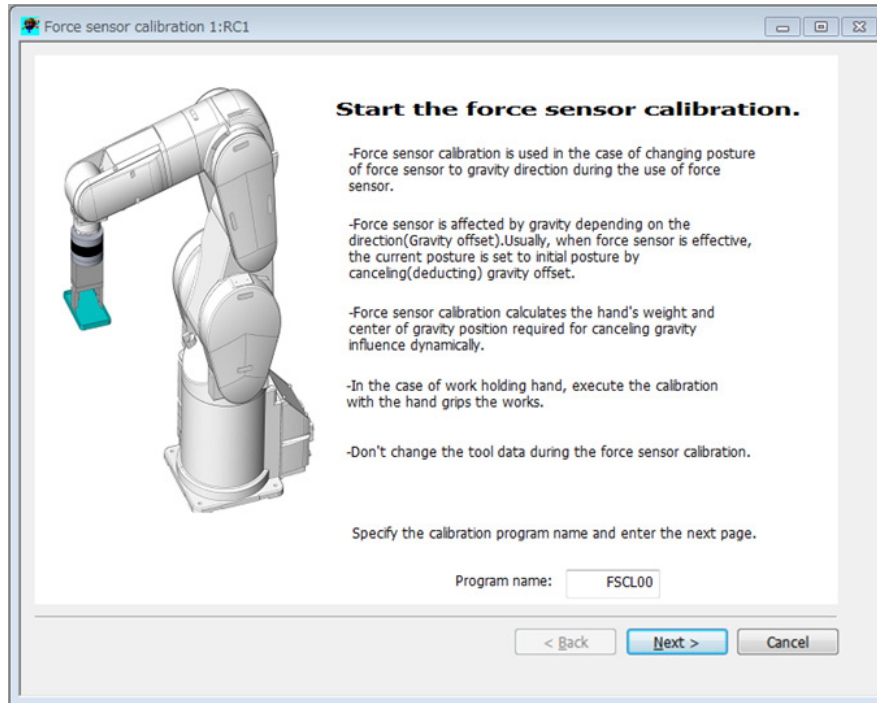
Please note that RT ToolBox2 is not included to the application package product.



5. Force sensor calibration

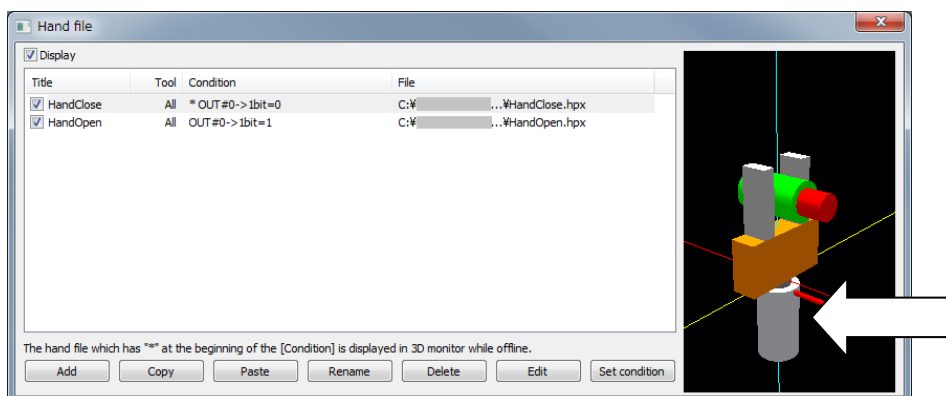
- Added the function of Force sensor calibration.

Force sensor calibration is the function that calculates the weight and center of gravity position of robot hand attached to the force sensor.

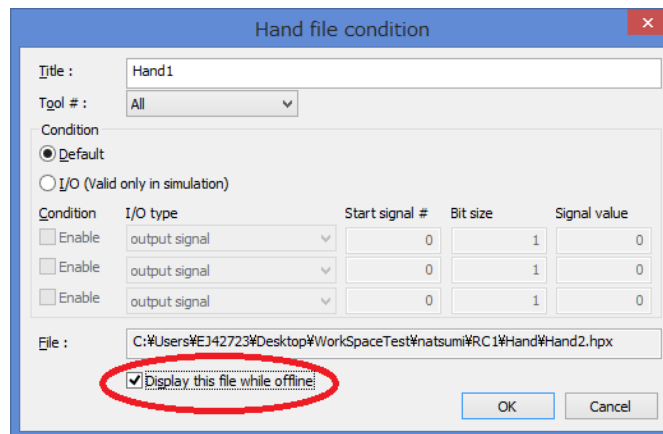


6. 3D monitor

- Added the perspective rotation function centered on the point of the screen central point, mouse point.
- The mechanical interface of robot can be displayed in hand file screen.

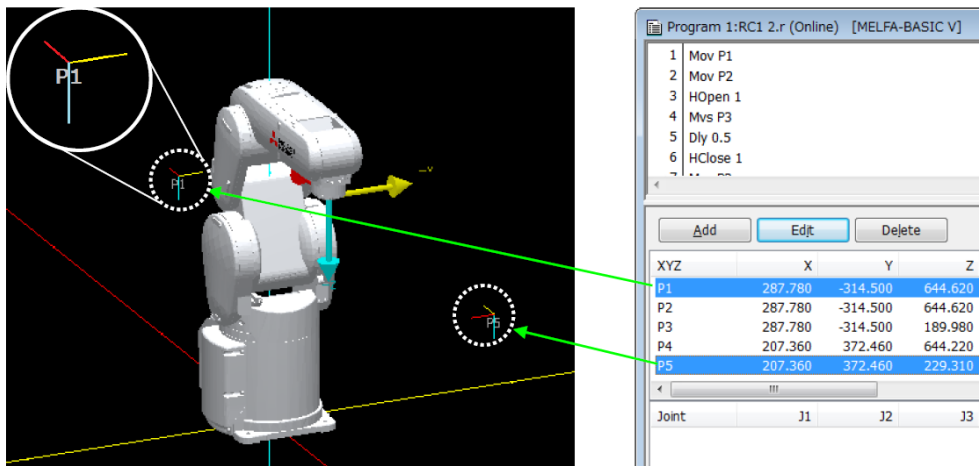


- The robot hand can be displayed in 3D monitor in the offline mode.



- Changed the display of XYZ positions in 3D monitor.

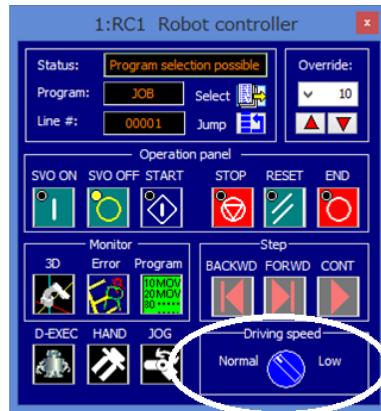
[+ X] [+ Y] [+ Z] of the characters are not displayed with Version 3.60N or later of this software.



7. Operation panel

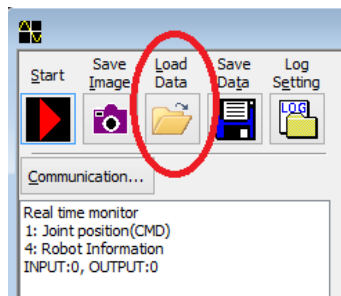
- Added the function to change the driving speed of the robot.

You can select the robot driving speed “Normal” or “Low”. If you select the Low, the robot cannot move more than maximum speed of JOG. This function can be used with software version S6h/R6h or later of the controller software.



8. Oscillograph

- Added the data of "Force sensor(+resultants)" in the oscillograph data list.
- Moved the button of load log file to the oscillograph screen.

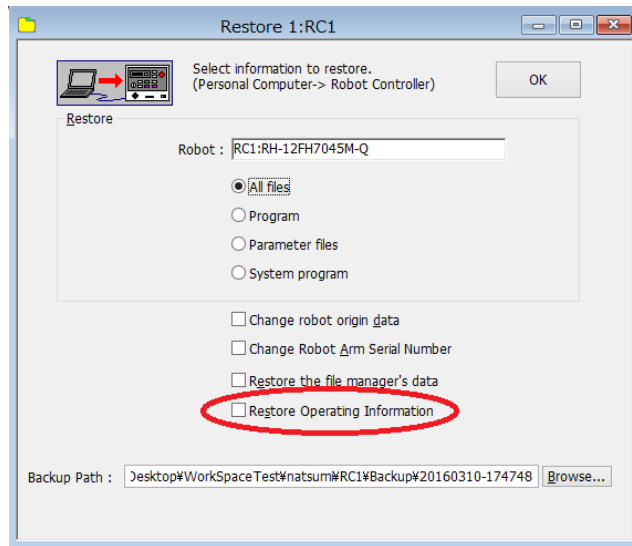


9. DXF file import

- Tolerance of posture value is changed from 100 to 0 percent when DXF/MXT file is imported to spline file.
- When the robot program is outputted, an arc which has the rotation angle of the posture over the 180 degree is divided in two.
- Fixed a bug in the calculation of the arc tangent line unit vector.

10. Restore

- Added the operating information (power on time, operation time, servo on time, and battery remaining time) to the restore data.



11. MelfaRXM.ocx

- The sample program of C# is added.
- If the product ID is the following format: Fixed a bug that fail to install.
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