

## QUICK START GUIDE

# Omron TM Collaborative Robot: Backup, Restore, and Update



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Version	Date	Author	Changes	HW Ver.	Sys. Ver.
<b>01</b>	1/17/2019	Kai Lee Aaron H Charlie K	Document Created	3.0	1.68.6800

## 1 Introduction

This demonstrates how to back up the current system version of an Omron TM robot, how to restore the robot to a previous system version, and how to update the firmware to a newer system version.

## 2 Useful Documents

The ADE Team strongly recommends reviewing the following documents in addition to this one:

TM Flow Software Manual	<a href="#">I626-E-02</a>
TM Initial Startup Tech Note	Document number TBD

In addition to the documents listed above, all Omron TM related downloads can be found at:

<https://industrial.omron.us/en/products/tm-series#downloads>

## 3 Backup

In some cases, the Omron TM robot must be restored to a former system version. However, it is entirely the user’s responsibility to regularly keep a good set of backup points to which the robot can be restored. It is also important to note that restoring the robot to a previous system version is currently the only method to “downgrade” the robot, as the Update function only

### 3.1 Procedure

1. Go to Backup\ Restore in the System menu.
  - a. Click on the **Backup** button so that it is highlighted green.
  - b. Enter a file name.
  - c. Click on the blue **Backup** button.

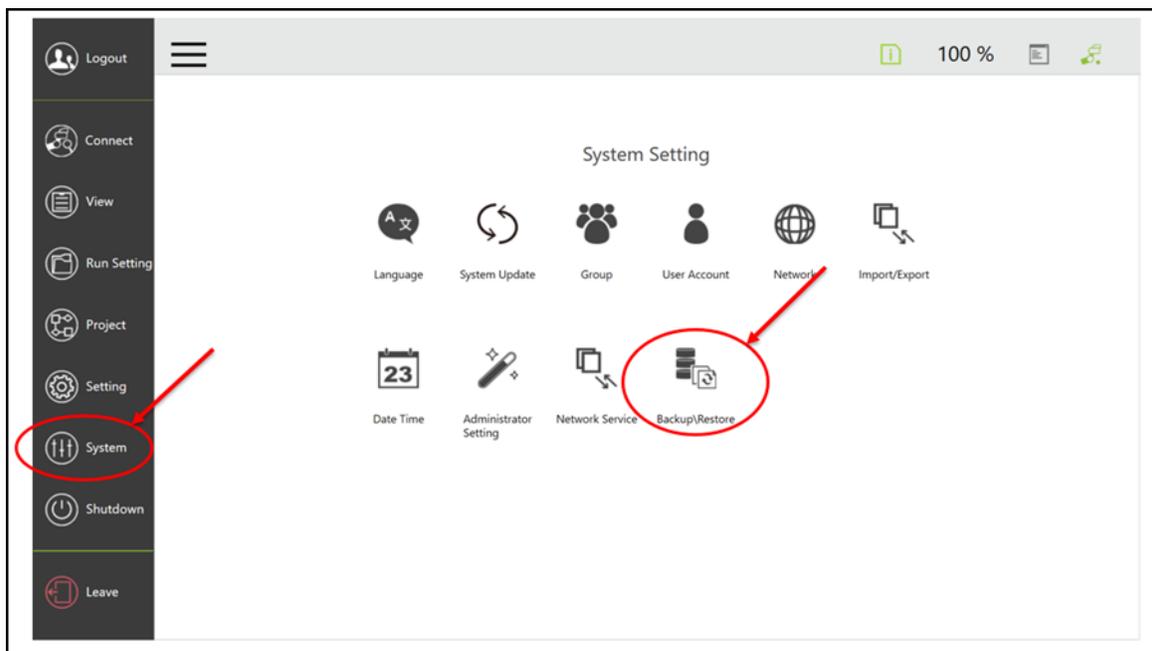


Figure 3.1 - System Setting Menu



Figure 3.2 - Backup Screen

2. The following will be backed up:
  - a. Firmware
  - b. Projects
  - c. Settings – TCP's, robot parameters, etc.

**A maximum of three backup points are allowed.** To delete a backup point, click on the **Restore** button and then click the delete button, marked by an **X** in a red box.

### 3.2 Recommended Backup Points

Since only 3 backup points are allowed, therefore the ADE team's suggested backup points are:

1. Upon initial setup (to retain a copy of the factory default settings).
2. After commissioning is complete.
3. Before updating to a new version of the firmware or before trying anything irreversible.

## 4 Restore

To restore everything in the selected backup file;

- a. Click the **Restore** button so that it is highlighted green.
- b. Choose the file you want to restore.
- c. To keep the current firmware, make sure to uncheck the box next to **Restore Robot Firmware**.
- d. Click the blue **Restore** button in the lower right corner.

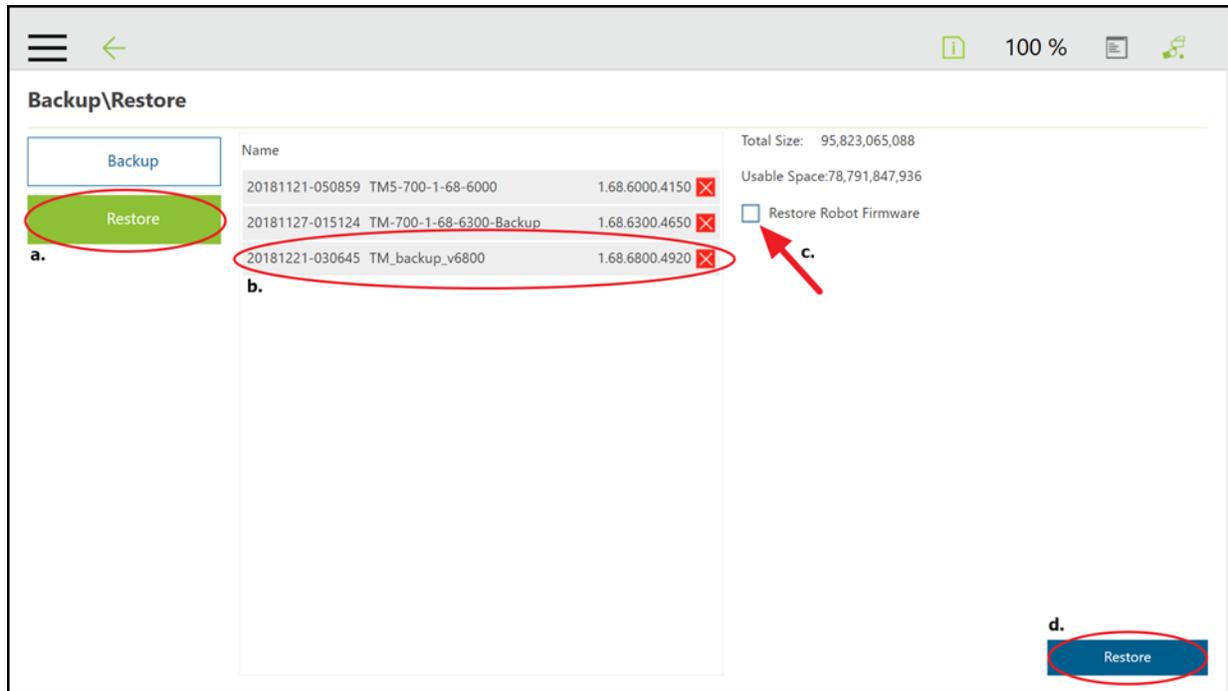


Figure 4.1 - Restore Screen

**CAUTION:** Do not remove power during the backup and restore process

## 5 USB Flash Drive Formatting

1. Plug a USB flash drive into an empty USB port on your computer.
2. Right click on the USB drive name in the Windows Explorer menu on the left side of the screen, then click on **Format...** This brings up the Format window.

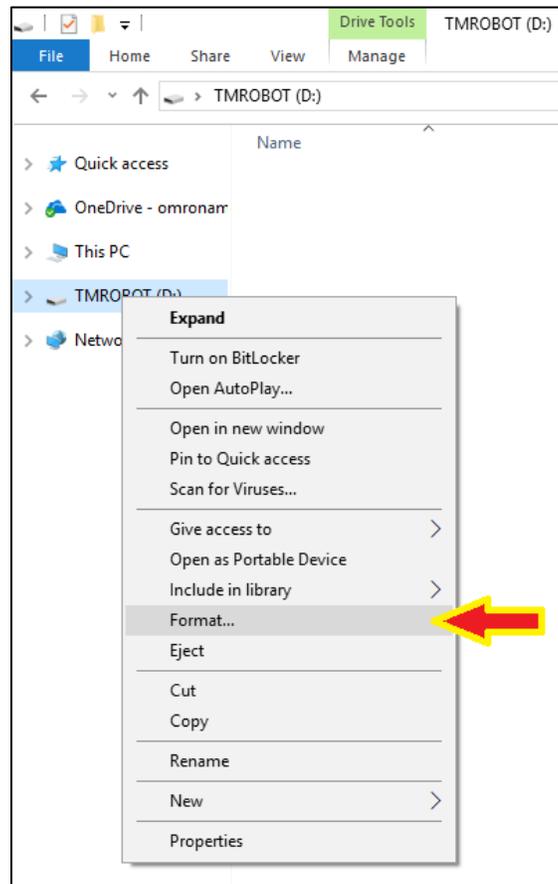


Figure 5.1 - Format

3. Choose the **NTFS** file system
4. Change the Volume label to “TMROBOT”. The volume label must match this name exactly.
5. Check the **Quick Format** box.
6. Click **Start**.
7. A pop-up window will display with a warning that you are erasing ALL data from the USB flash drive. Click **OK**.

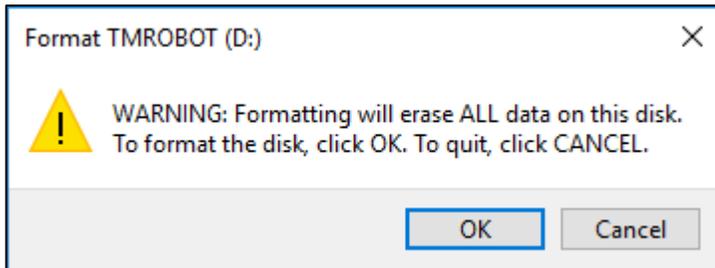


Figure 5.3 - Format Warning

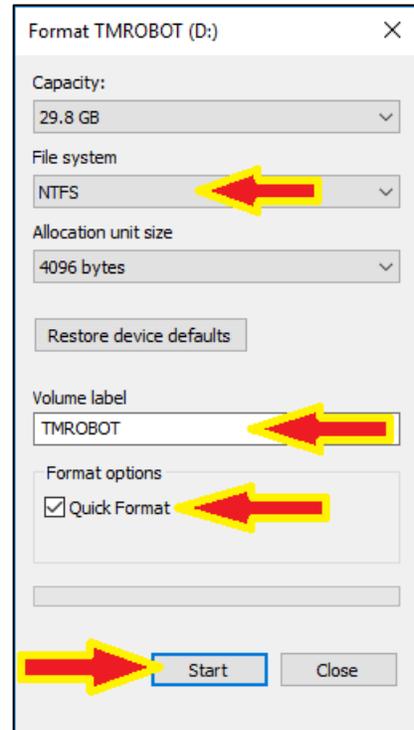


Figure 5.2 - Formatting Convention

8. Once the formatting is complete, a pop-up window will display “Format Complete”. Click OK to finish the formatting procedure.

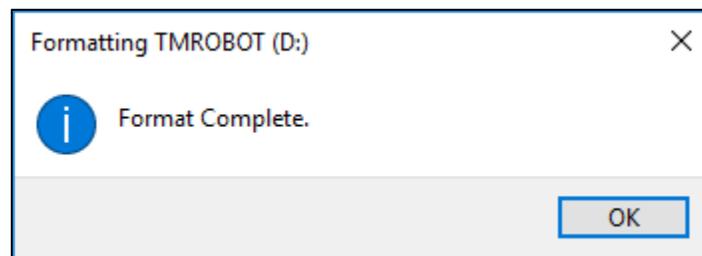


Figure 5.4 - Formatting Complete

9. The folder naming convention within the USB drive is very important. Follow the naming convention shown below in figure 4.5.

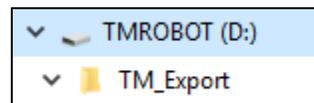


Figure 5.5 - Folder Naming Convention

## 6 Update

The following steps detail how to update the robot's System Version.

1. The latest version of TM Flow can be found on Omron's website at <https://industrial.omron.us/en/products/tm-series>.
2. Unzip the update file into the root directory of your newly formatted TM USB flash drive.

Name	Date modified	Type	Size
Brand.Cert	1/7/2019 4:24 PM	CERT File	1 KB
setup	1/7/2019 4:24 PM	Application	291,632 KB
Setup64	1/7/2019 4:24 PM	Application	404,951 KB
tmr05.tmr	1/7/2019 4:25 PM	TMR File	533,989 KB

Figure 6.1 - Included Files

3. Plug the USB flash drive into a USB port on the robot controller.
4. Go to **System Update** in **Setting**

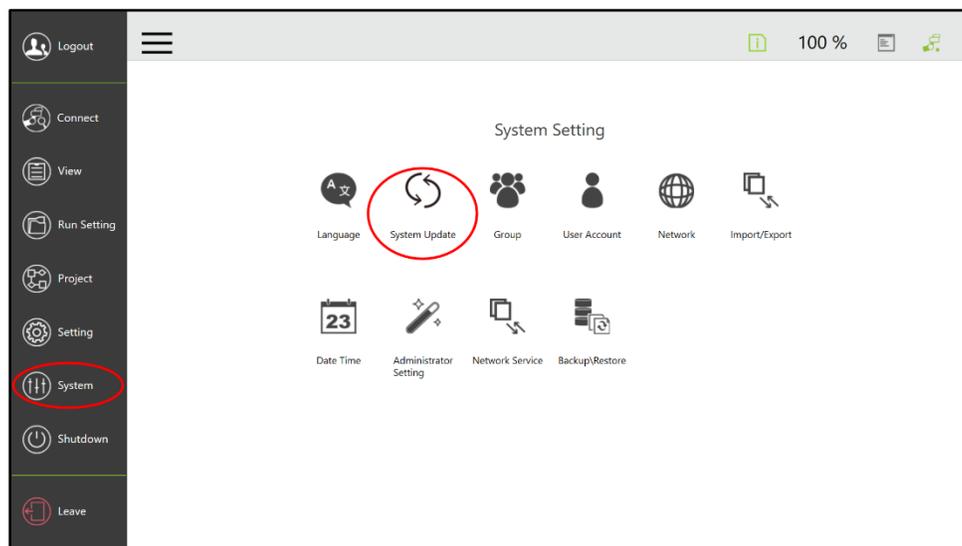


Figure 6.2 - System Setting Menu

5. If the system recognizes the TM Flow file on the USB drive, a .tmr file like in the figure below. Note that the clicking OK will result in an error if the file version of TM Flow is older than the current System Version. To “downgrade” the robot, it must be restored to a backup System Version.

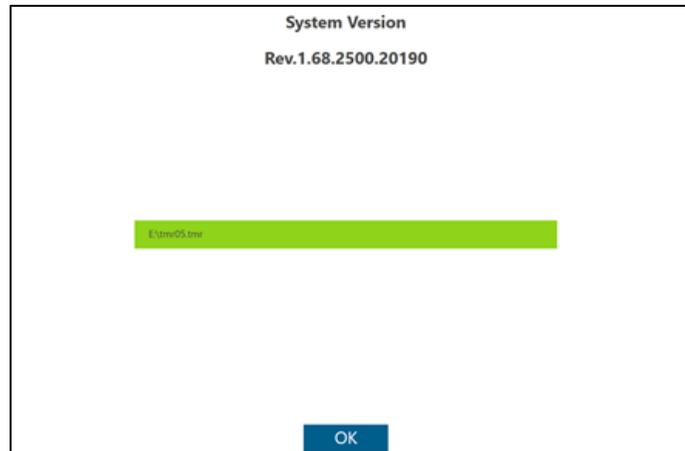


Figure 6.3 - System Version Screen

6. Click **OK** to update the system.
  - a. **CAUTION:** Do not click anything or remove the USB until the update has finished and the controller has completely shut down.
  - b. The robot will shut down completely after the update is done.
7. Manually restart the robot and the update will be finished.
  - a. Press the power button on the robot stick.
  - b. If the robot does not power on with the robot stick, or if the indicator light on the robot becomes a fast-blinking red, it may be necessary to manually power cycle the control box (turning the power supply off then on again).
8. Update the version of TM Flow on all Windows devices that control the robot (i.e. a laptop).
  - a. A version conflict error message will occur if the software version of TM Flow on a Windows device does not match the system version in the robot.
  - b. The old version of TM Flow on the Windows device must be uninstalled before installing the new version. Errors will occur if this step is neglected.

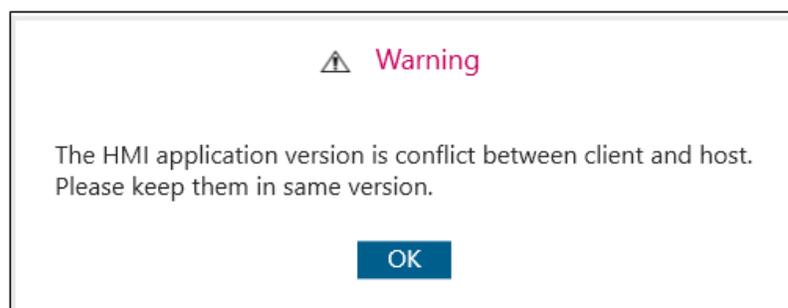


Figure 6.4 - Version Conflict Warning

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