



# Flexx Reference User Manual

FlexxBotics Corp. Product

October 2020



## Revision Sheet

Release No.	Date	Revision Description
Rev. 0	3/28/18	Creation
Rev 1	5/24/18	Flexx Lockout AssemblyV2, License Key
Rev 1.1	6/25/18	Spacer Call Outs and Updated Terms
Rev 1.2	8/9/18	Flexx Lockout Assembly V3
Rev 1.3	1/16/19	Positional Tolerance, Software Installation Internet Connectivity
Rev 1.4	6/5/19	Conversion to 3.9 and 5.3
Rev 1.5	10/7/19	Software Update to 1.3.0 Version
Rev 1.6	12/19/19	Software Update to 1.4.0 Version
Rev 1.7	7/1/2020	Software Update to 1.5.0 Version
Rev 1.8	8/6/2020	New Mechanical
Rev 1.9	10/24/2020	Software Update to 1.6.0 Version

## Contents

1. Product Overview .....	4
1.1. Overview.....	4
1.2. Key Terms and Definitions .....	4
2. Installation and Setup .....	5
2.1. URCap Installation .....	6
2.2. License Activation .....	8
2.3. Mechanical Installation .....	9
2.4. Recording a Flexx Feature.....	11
2.5. Setting Joint Alignment Position .....	15
3. Flexx Reference Programming Workflow.....	16
3.1. Adding the Flexx Reference Node.....	16
3.2. Flexx Reference User Interface Elements.....	17
3.3. Programming Workflow .....	18
4. Flexxbotics Toolbar.....	21
4.1. Preparing to Update Flexx Features .....	21
4.2. Updating Flexx Features.....	22
5. Flexx Feature Updater Node .....	23
5.1. Adding the Flexx Feature Updater Node.....	23
5.2. Flexx Feature Updater During Runtime .....	24
6. Updating a Flexx Feature From Installation Tab.....	27
6.1. Update Workflow.....	27
6.2. Adding Additional Moves / Waypoints After Update.....	28
7. Re-Programming Existing Stationary UR Programs .....	31
8. URCap Uninstallation .....	33
APPENDIX I: TERMS AND CONDITIONS.....	34
APPENDIX II: CONTACT INFO .....	39

# 1. Product Overview

## 1.1. Overview

The Flexx Reference pairs with your Universal Robot through the seamless integration of a URCap Plugin and the simple Flexx Lockout Assembly mechanical mating system. The Flexx Reference enables flexible deployment and repurposing of any UR robot utilizing relative calibration and native nodes. Whether it be increasing robot uptime, decreasing installation time or finding new applications for your robot, the Flexx Reference can help make any work space more efficient.

## 1.2. Key Terms and Definitions

<b>Flexx Reference</b>	Software and Mechanical Assembly that can help repurpose any UR robot within minutes without having to rewrite programs.
<b>Flexx Feature</b>	6 degrees of freedom (X, Y, Z, Rx, Ry, Rz) captured in the UR Polyscope while in a Flexx Lockout. This point relatively calibrates the robot.
<b>Flexx Lockout Assembly</b>	Mechanical assembly that when mated together creates a 6 degree of freedom lock or Flexx Lockout.
<b>Female Reference Component</b>	Mechanical interface between robot end and male reference component
<b>Male Reference Component</b>	Mechanical interface between work station and female reference component

## 2. Installation and Setup

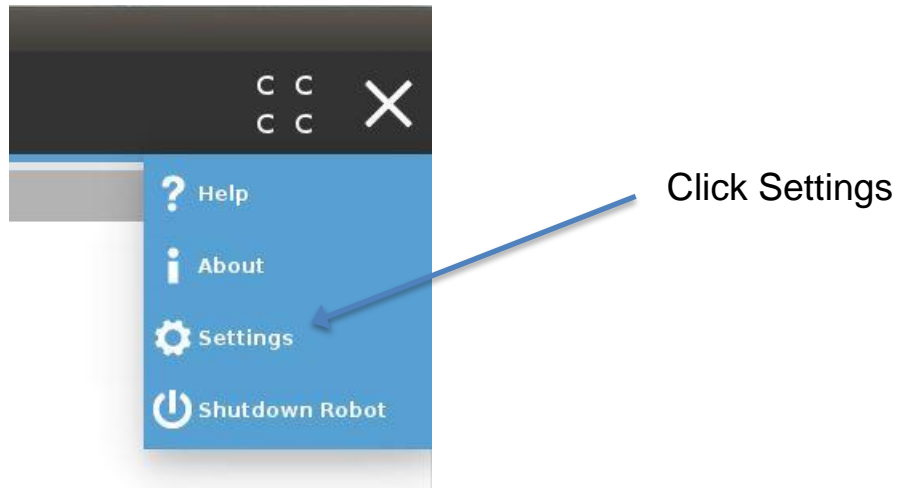
In this section, the user should learn how to properly install the Flexx Reference URCap, efficiently integrate the Flexx Lockout Assembly, and effectively sync the URCap with the Flexx Lockout assembly. The Flexx Lockout Assembly has been intuitively designed to mate once the male assembly has been connected with the end effector. It is imperative to understand the best practices for the female assembly's placement.

Proper maintenance is equally important to ensure your Flexx Lockout Assembly provides consistent precision. The mechanical mate's precision directly correlates to your robot's precision

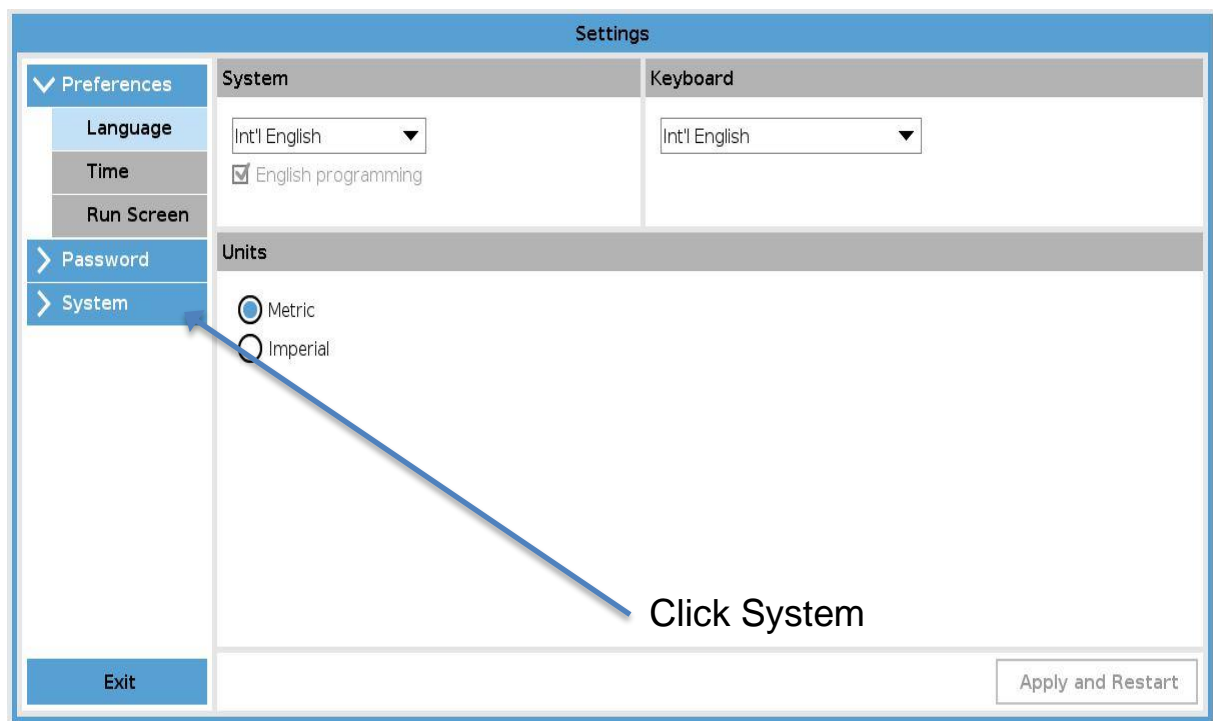
## 2.1. URCap Installation

2.1.1. Plug the USB into the Universal Robots teach pendant

2.1.2. Navigate to the **Settings** page within Polyscope.



2.1.3. On the left side of the screen, click on the **System** tab.



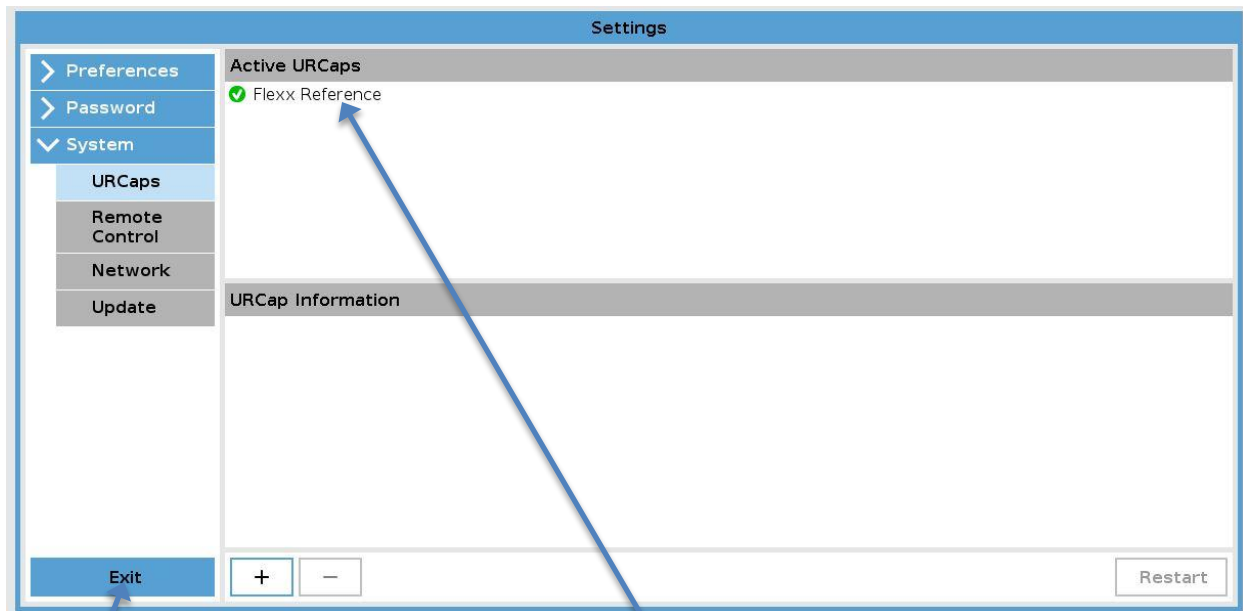
2.1.4. Click the **plus (+)** button in the bottom left corner of the screen.

2.1.5. Open the USB device folder from the file explorer.

2.1.6. Select the Flexx Reference. **URCap file** and click **Open**.

2.1.7. Verify that Flexx Reference now appears in the **Active URCaps** list with a green check mark.

2.1.8. Click **Exit** to leave the Polyscope settings window.



Successful Cap Installation

Press Exit when complete

## 2.2. License Activation

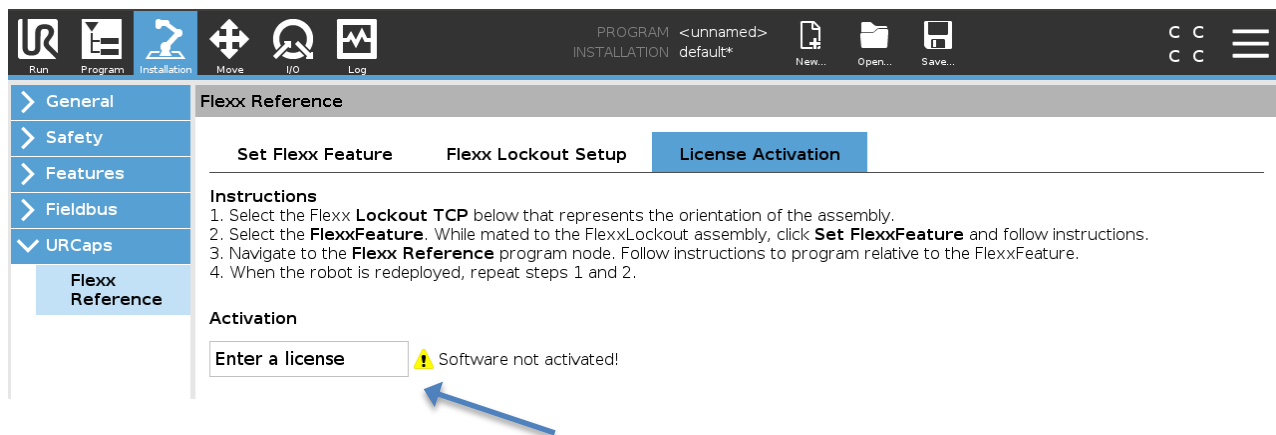
2.2.1. Navigate to the **Installation Tab** within Polyscope.

2.2.2. On the left side of the screen, click on the **URCaps** tab.

2.2.3. Select the **Flexx Reference** urcap. This will open the Flexx Reference Installation Node.

2.2.4. Click the “**Enter a License**” text box to launch the keyboard.

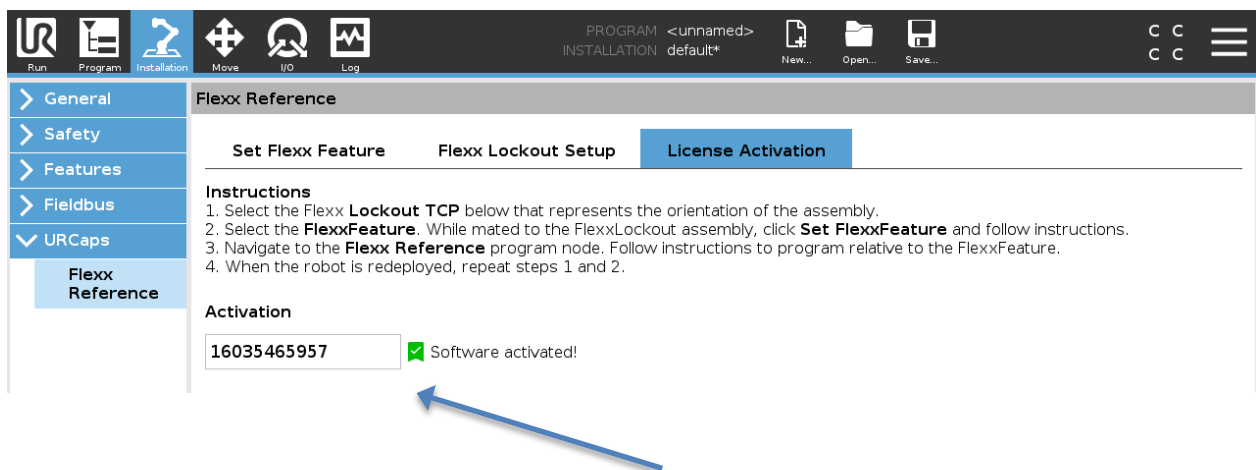
2.2.5. Enter the license code provided by Flexxbotics and click **Submit**.



Enter License Key Here

2.2.6. Verify the Flexx Reference Installation Node displays “**Software activated!**”.

2.2.7. Save the Installation File.



Software Activated



### 2.3. Mechanical Installation

Verify that you have all of the following components:

1. End Effector Interface Component
2. Female Reference Component
3. Male Reference Component
4. Two (2) M4 Mounting Screws
5. Four (4) M6 Mounting Screws
6. Three (3) Collars



2.3.1 Once you have confirmed you have all the necessary hardware, connect the End Effector Interface Component (1) to the Female Reference Component (2) using the M4 Mounting Screws (4). It is recommended to apply locktite to ensure a secure fit.

2.3.2 Mount the End Effector Interface Component to the end of the robot arm using the M6 Mounting Screws (5). Align the interface holes with the mounting face of the robot. Ensure the flange is flush with the robot as seen in the image below.



Front View of Interface  
Component Mounted

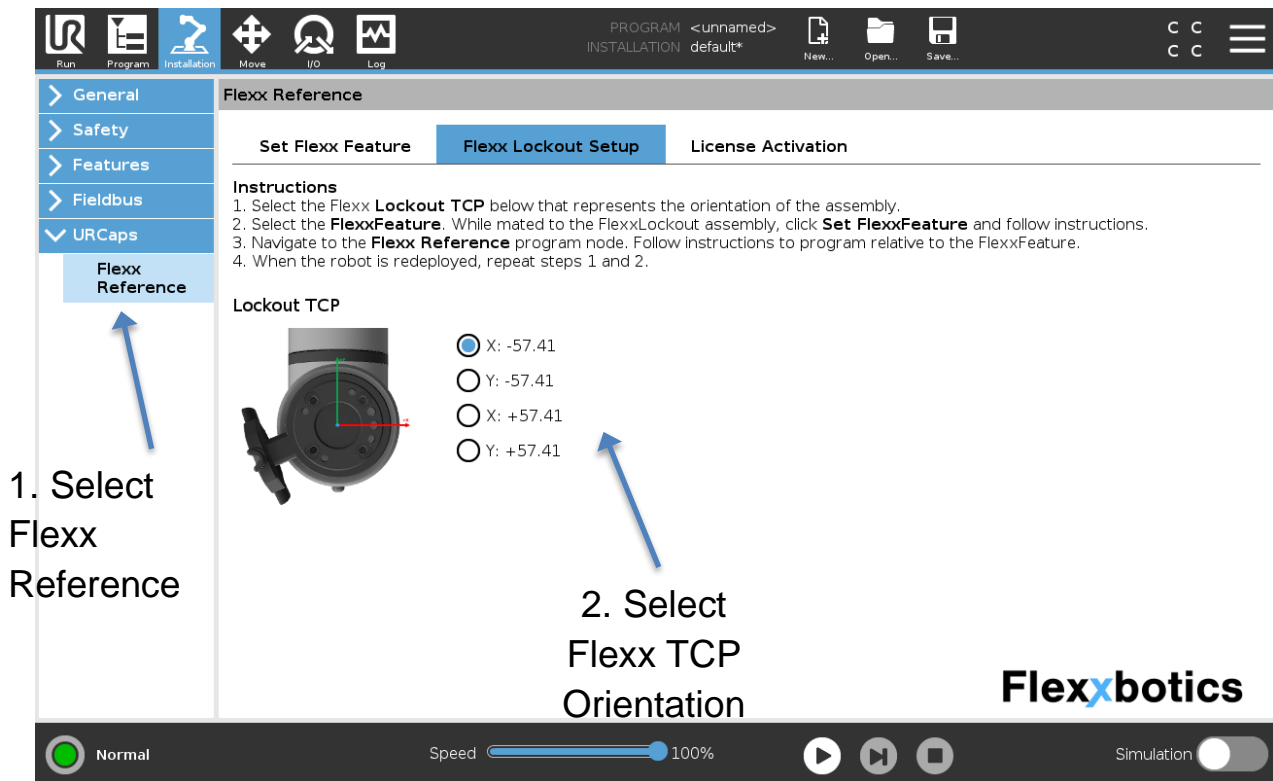
## 2.4. Recording a Flexx Feature

2.4.1. Navigate to the **Installation Tab** within Polyscope.

2.4.2. On the left side of the screen, click on the **URCaps** tab.

2.4.3. Select the **Flexx Reference** URCap. This will open the Flexx Reference

Installation Node. Read the text information at the top of the page.

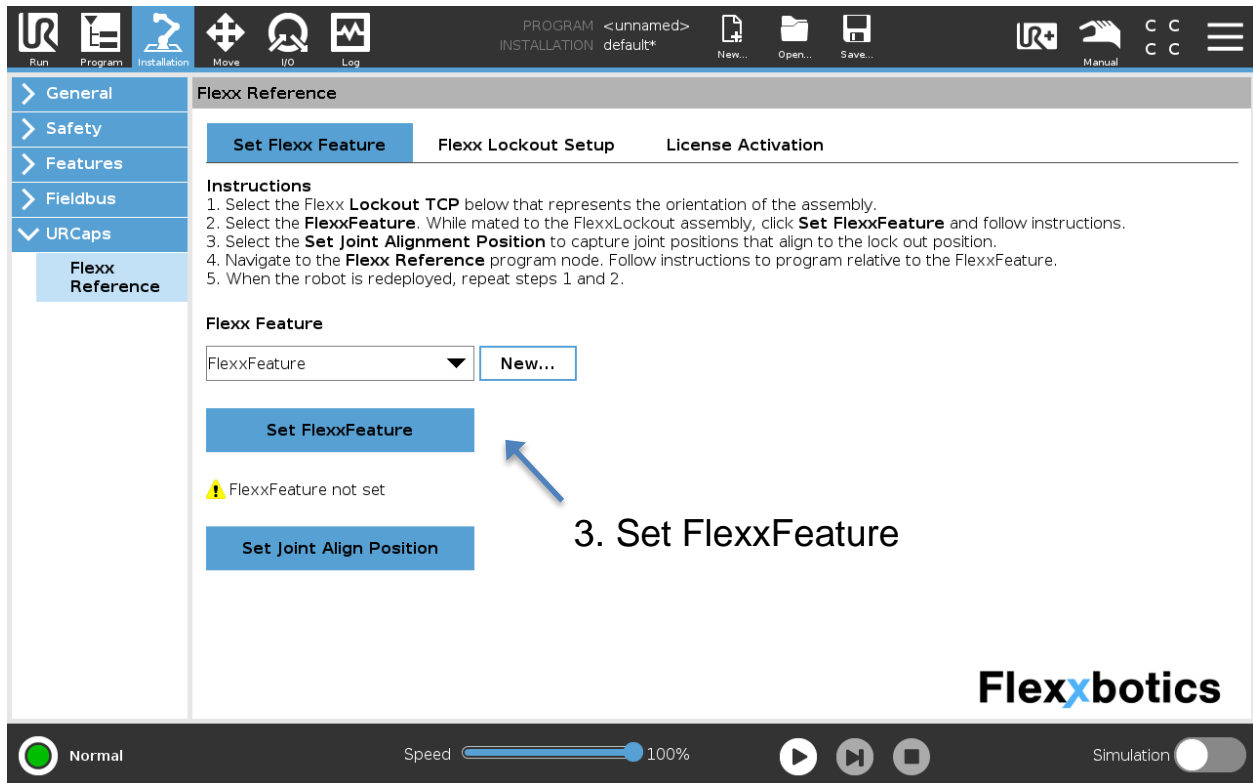


2.4.4. Use the radio buttons within the installation page to select the **Flexx TCP** of the Flexx Lockout based on the orientation of the assembly on the end of the robot.

2.4.5. Click **Set FlexxFeature** to open the user interaction screen. **Free Drive** the robot to the Flexx Lockout assembly.

*NOTE: The FlexxFeature is automatically contributed and selected by the urcap.*

*Setting the FlexxFeature pose is required by the user.*

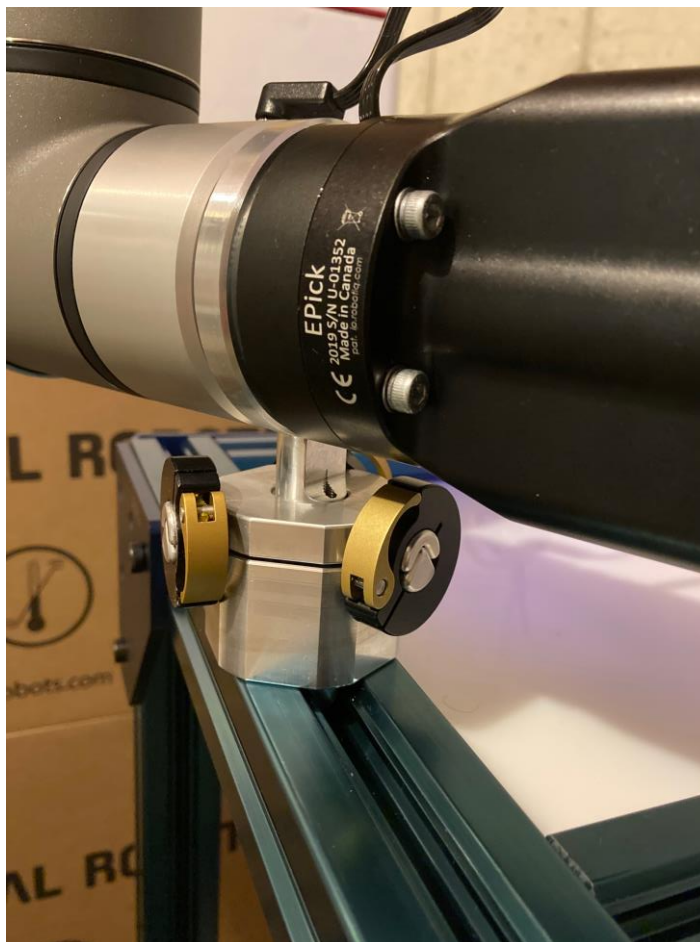


2.4.6. Mate the female component of the Flexx Lockout assembly to the male component. The components are symmetrical but must mount in one direction using the witness markings on the components.

**CRITICAL: WHEN PERFORMING THE LOCKOUT, ENSURE THE WITNESS MARKS ON THE FEMALE AND MALE COMPONENTS ARE ALIGNED**

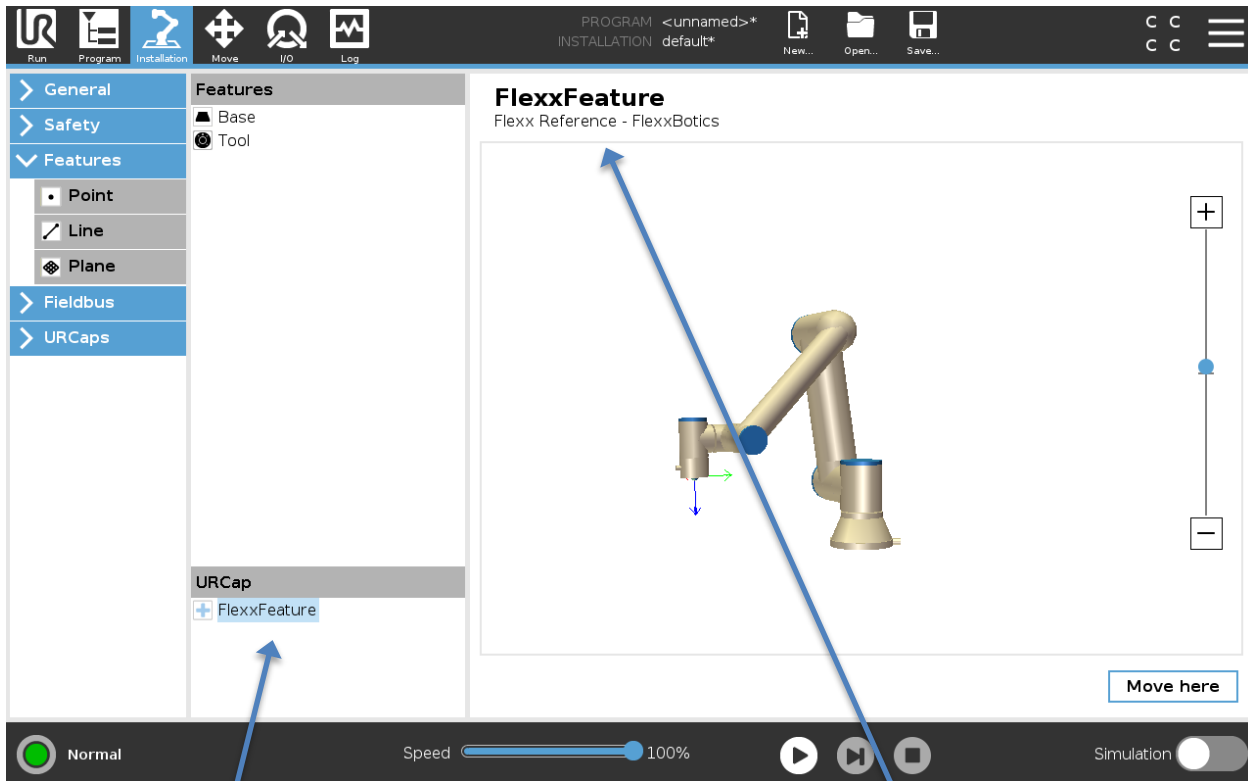
2.4.7. Install the three collars on each of the three sides of the interface as shown in the image below. The collars must be slid to be flush with the female and male components. Tighten each of the collars by closing the gold collar clamp.

NOTE: The collars are adjustable by loosening the gold clamp screw. If the fit is too tight and cannot be slid flush with the lockout, loosen slightly and re-apply.



2.4.8. In Polyscope, click **OK** within the user interaction screen to set the feature

2.4.9. The **FlexxFeature** can be found by navigating to the **Feature** tab within the Installation Page.



Flexx Feature In Installation tab

FlexxFeature Automatically Named

2.4.10. To add additional **Flexx Lockout** positions, click **Add New FlexxFeature** and repeat steps 2.4.4 through 2.4.9.

2.4.11. The urcap automatically resets the **Active TCP** to the previous Active TCP prior to setting the Flexx Feature.

2.4.12. Save the Installation File.

## 2.5. Setting Joint Alignment Position

To allow for easy workflows when updating the FlexxFeature after re-deployment, the software allows the user to set a joint alignment position for the robot. The intention of the joint alignment position is to provide a position just above or in front of the lockout position. With this position, the user can use the Toolbar (see step 4.1.3 below) to automatically move the robot near the lockout position prior to locking out and setting the FlexxFeature.

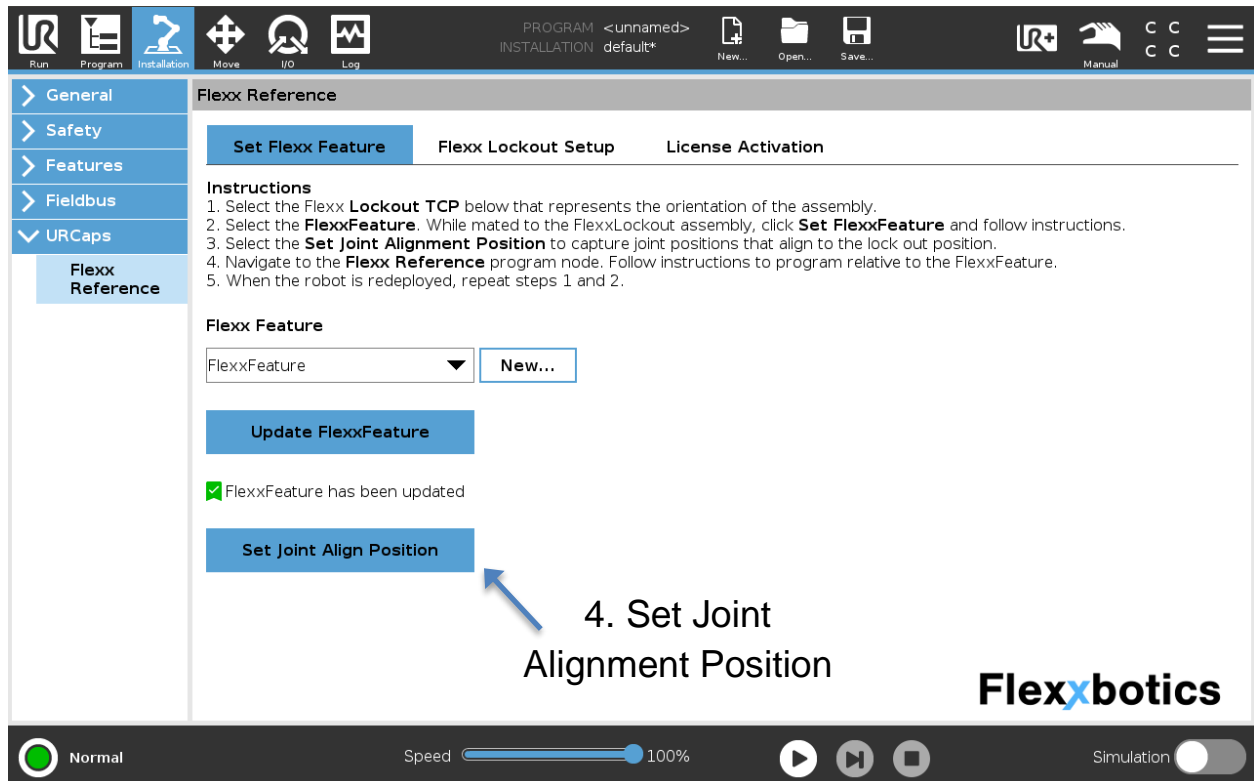
2.5.1. Position the robot just above the Flexx Lockout Assembly.

NOTE: This position is decided by the end user depending on the orientation of the lockout assembly in the cell (horizontal versus vertical, for example).

2.5.2. Once in position, press the **Set Joint Alignment Position** button.

2.5.3. Follow the on screen prompts to set the position.

2.5.4. This position can be updated at anytime by selecting the FlexxFeature in the drop down and using the set joint alignment position button.



## 3. Flexx Reference Programming Workflow

### 3.1. Adding the Flexx Reference Node

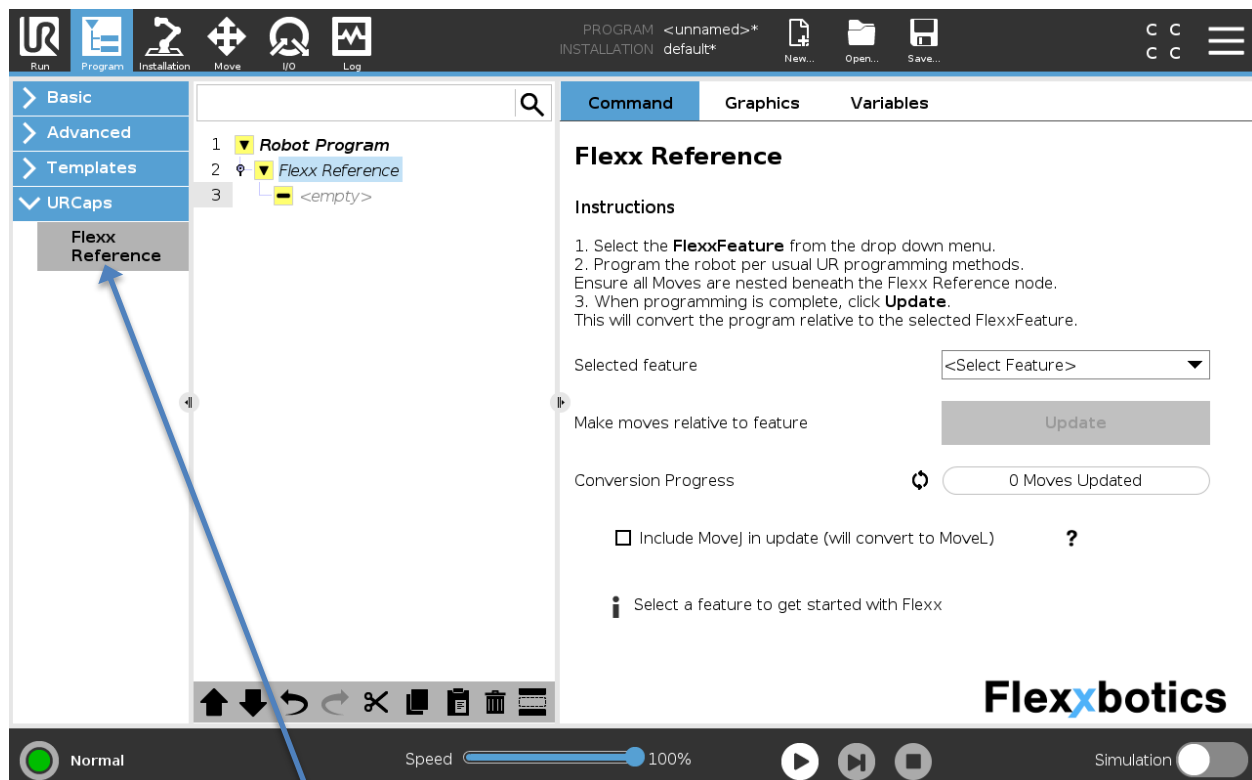
3.1.1. Navigate to the Program tab within Polyscope.

3.1.2. On the left side of the screen, click on the **URCaps** tab.

3.1.3. Select the **Flexx Reference** Program Node to add it to the Robot Program tree.

*NOTE: Multiple Flexx Reference program nodes may be added to the program and act independently from each other. This functionality may be used for multiple Flexx Feature points or complicated programs.*



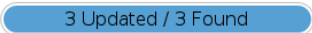


3.1.4. Select the **Flexx Reference** Program Node within the Robot Program tree to view its user interface. Refer to the next section for a brief description of each user interface element.



Click Flexx Reference Node



### 3.2. Flexx Reference User Interface Elements

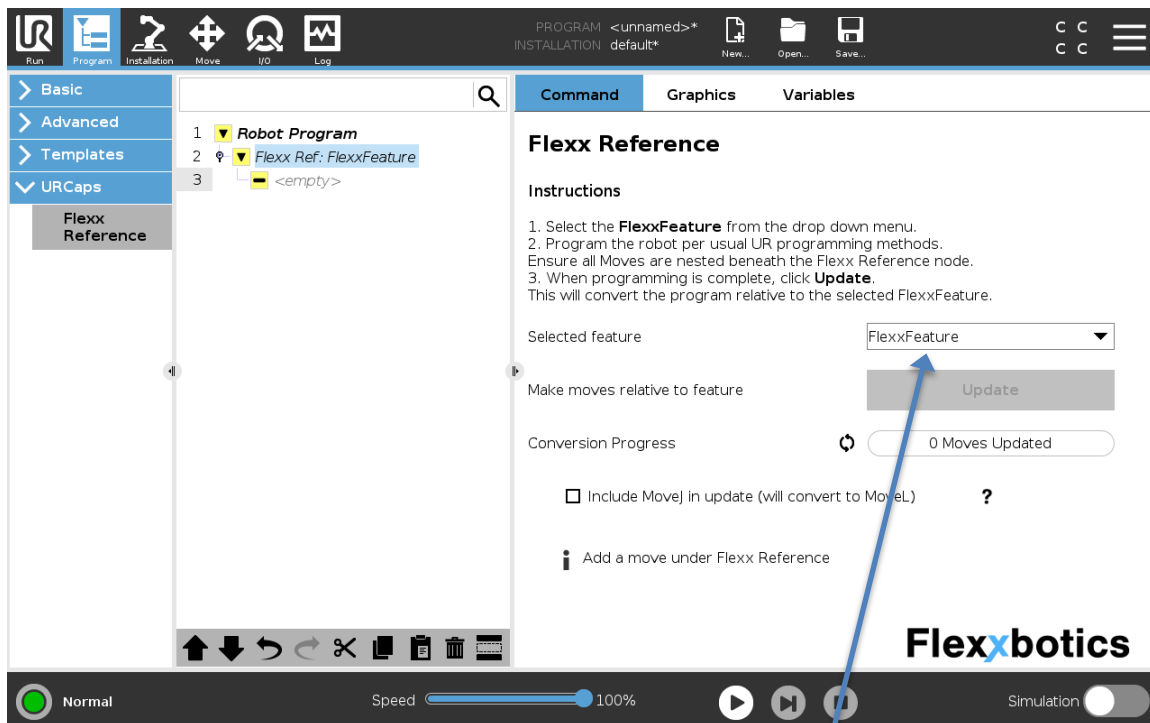
<b>Feature Drop Down Menu:</b>	A list of all the FlexxFeatures set in the installation tab.	
<b>Update</b>	Button to convert all Moves nested beneath Flexx Reference to be relative to the selected Feature	
<b>Conversion Progress Bar</b>	Status bar to display and keep track of the number of Move nodes found and updated beneath the Flexx Reference Node.	
<b>MoveJ Checkbox</b>	Check box to allow conversion of MoveJ move types. See step 3.3.4 for more information as to the functionality of this element.	
<b>Refresh Button</b>	Refreshes the progress bar with counts of updated and found moves.	

### 3.3. Programming Workflow

#### 3.3.1. Verify Flexx Feature is present in the Feature Drop Down List.

*NOTE: If the Flexx Feature is not in the drop down list, follow the steps in 2.4*

*Recording a Flexx Feature.*



Select the Flexx Feature

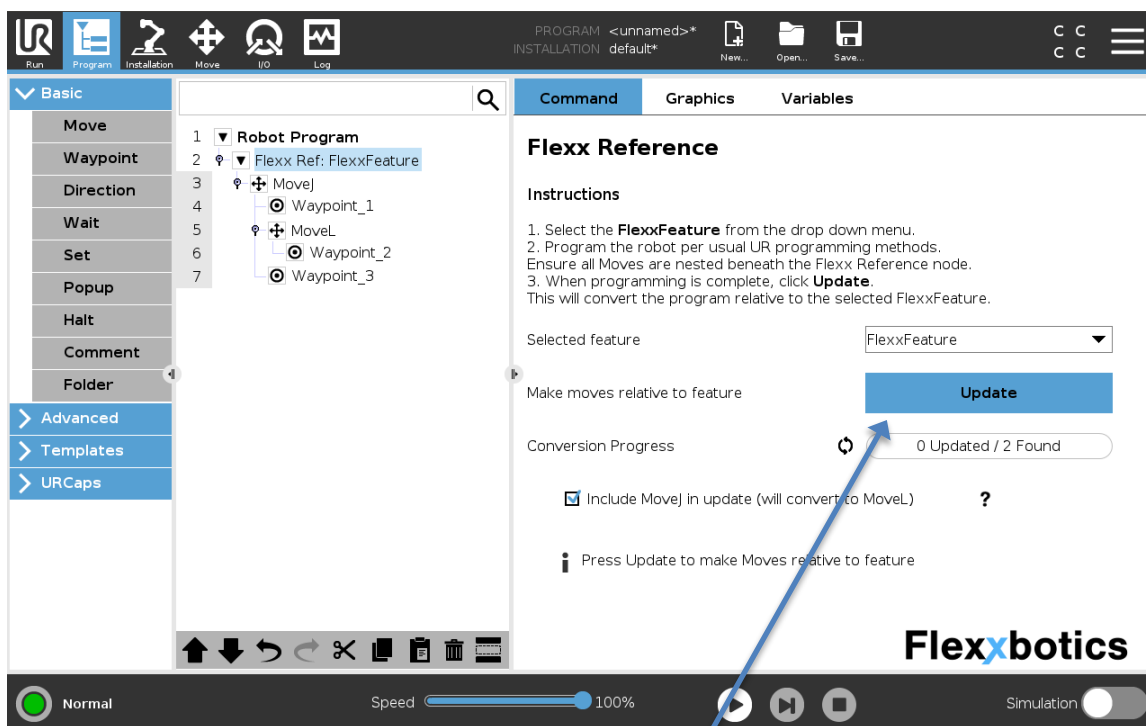
3.3.2. **Select** the Flexx Feature relevant to current program.

*NOTE: This does NOT yet update the program.*

3.3.3. Program the robot using the native Move and Waypoint nodes in Polyscope.

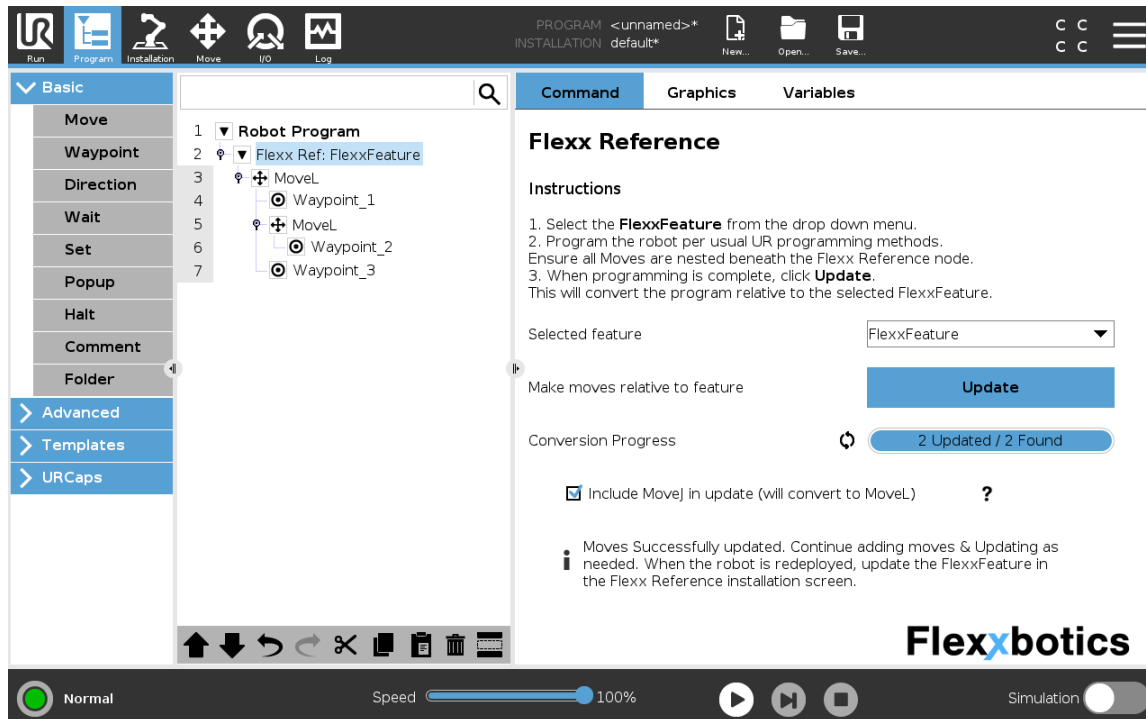
3.3.4. Toggle the MoveJ inclusion checkbox. Checking this box will allow updating of MoveJ within the robot program relative to the Flexx Feature; however, it will convert them to MoveL move types. The MoveL can then need to be converted back to the MoveJ type, retaining its original configuration. This is due to a current UR programming limitation.

3.3.5. Once all Moves and Waypoints have been added, click “Update” to convert the child Move Nodes to be relative to the selected Flexx Feature.



Update program relative to  
FlexxFeature

3.3.6. After the update button is pressed, all moves will be updated relative to the selected feature. See the conversion progress bar on the number of moves updated and found.



3.3.7. As shown in the screenshot above, Flexx Reference changed the first move in the program from a MoveJ to a MoveL. This move must be manually changed back to a MoveJ. Once changed back, the MoveJ is still set relative to the FlexxFeature.

3.3.8. The user may continue to add Moves and Waypoints until the program is complete. Use the conversion progress bar to keep track of updated moves. When additional Moves and Waypoints are added, the Update button needs to be pressed to convert them relative to the Flexx Feature.

3.3.9. Save the program when complete.

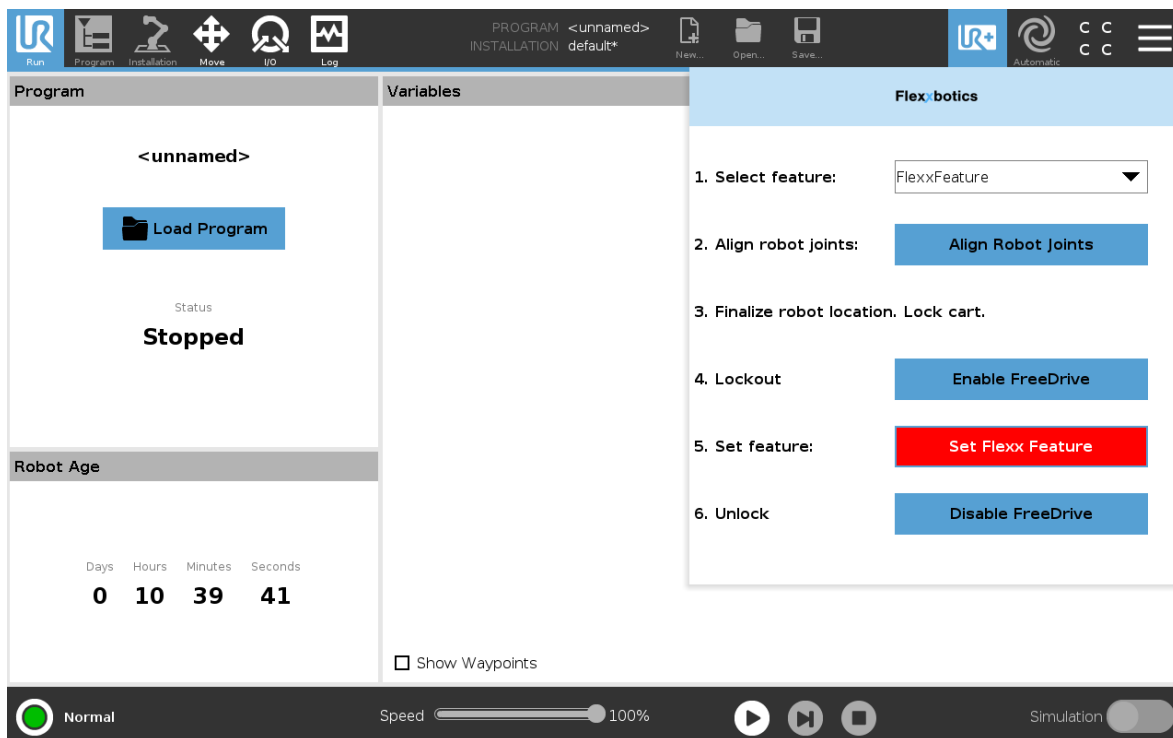
## 4. Flexxbotics Toolbar

The following section outlines the functionality of the Flexxbotics Toolbar. This is the primarily used interface for operators when redeploying the robot and updating Flexx Features. When updating Flexx Features, the updated feature will be saved in between runs.

### 4.1. Preparing to Update Flexx Features

- 4.1.1. Open the toolbar from the UR+ menu at the top of Polyscope.
- 4.1.2. Select the FlexxFeature to be updated from the dropdown menu.
- 4.1.3. Prior to maneuvering to the final position of the robot, press the **Align Robot Joints** button. This will slowly perform a MoveJ to move the robot arm to the joint positions captured in step 2.5. This joint position should be close to the previous orientation of the robot when the FlexxFeature was first captured.

NOTE: Step away from the robot when performing this step.



- 4.1.4. Finalize the position of the robot by moving the robot base so that the Flexx Lockout EOAT aligns with the Flexx Lockout .

## 4.2. Updating Flexx Features

- 4.2.1. Once the robot is in place, press the **Enable Freedrive** button to put the robot in freedrive mode.

NOTE: Make sure the center of gravity parameters of the robot are setup properly. Failure to do so may result in some drifting of the robot while its held in freedrive.

- 4.2.2. Perform the lockout of the Flexx Lockout Assembly using the same steps as 2.4.6 and 2.4.7.
- 4.2.3. Once locked out, press the **Set Feature** button to update and save the FlexxFeature.
- 4.2.4. Unlock the lockout assembly and move the robot arm away from it to allow for space when starting the program.
- 4.2.5. Press the **Disable Freedrive** button in the toolbar to turn off freedrive mode.

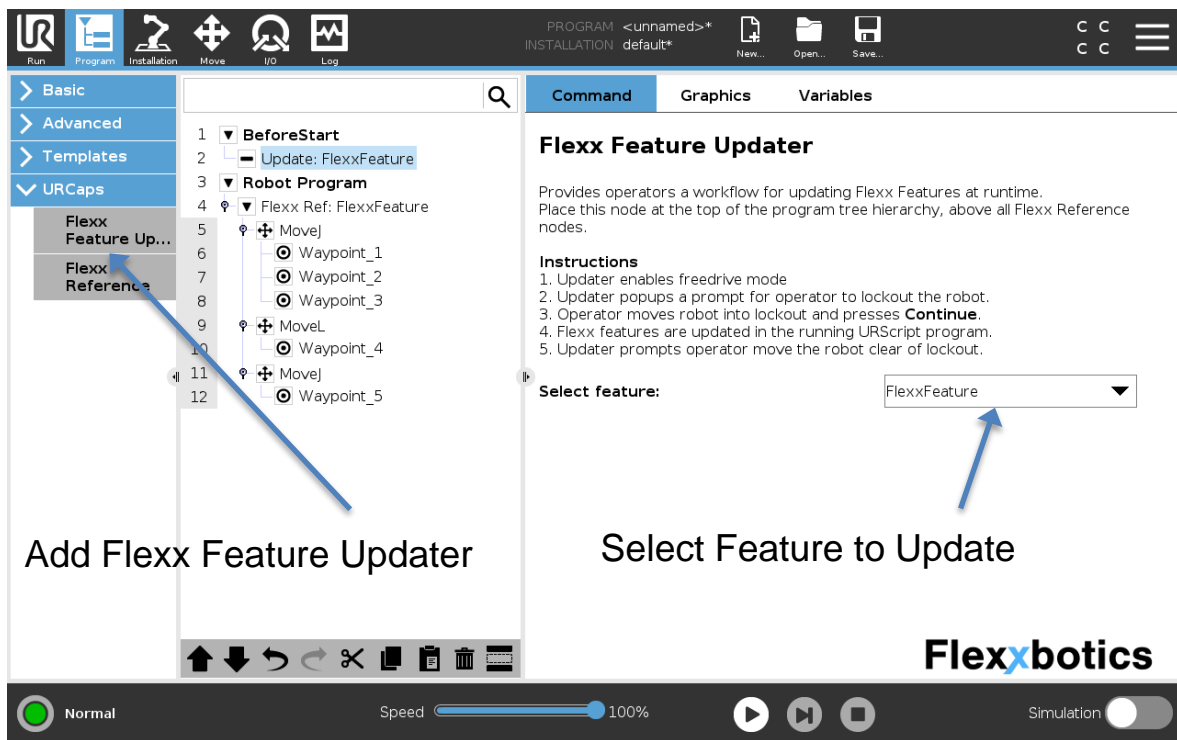
## 5. Flexx Feature Updater Node

The following section outlines the functionality of the Feature Updater Node. The Feature Updater Node provides the end user a workflow for updating Flexx Features during runtime. This node does not save the updated pose of the Flexx Feature in between runs. If saving of the feature in between runs is required, use the Flexxbotics Toolbar.

### 5.1. Adding the Flexx Feature Updater Node

- 5.1.1. Navigate to the Program tab within Polyscope.
- 5.1.2. On the left side of the screen, click on the **URCaps** tab.
- 5.1.3. Select the **Flexx Feature Updater** Program Node to add it to the Robot Program tree.

*NOTE: This node should be placed anywhere in the Program Tree ABOVE the Flexx Reference node of the Flexx Feature it is updating. It is recommended that this node be placed either in the Before Start sequence or nested within a case statement to control when the Flexx Feature is updated. The Flexx Feature Updater will run through an update routine via UR Script when the program reaches this node during runtime.*



## 5.2. Flexx Feature Updater During Runtime

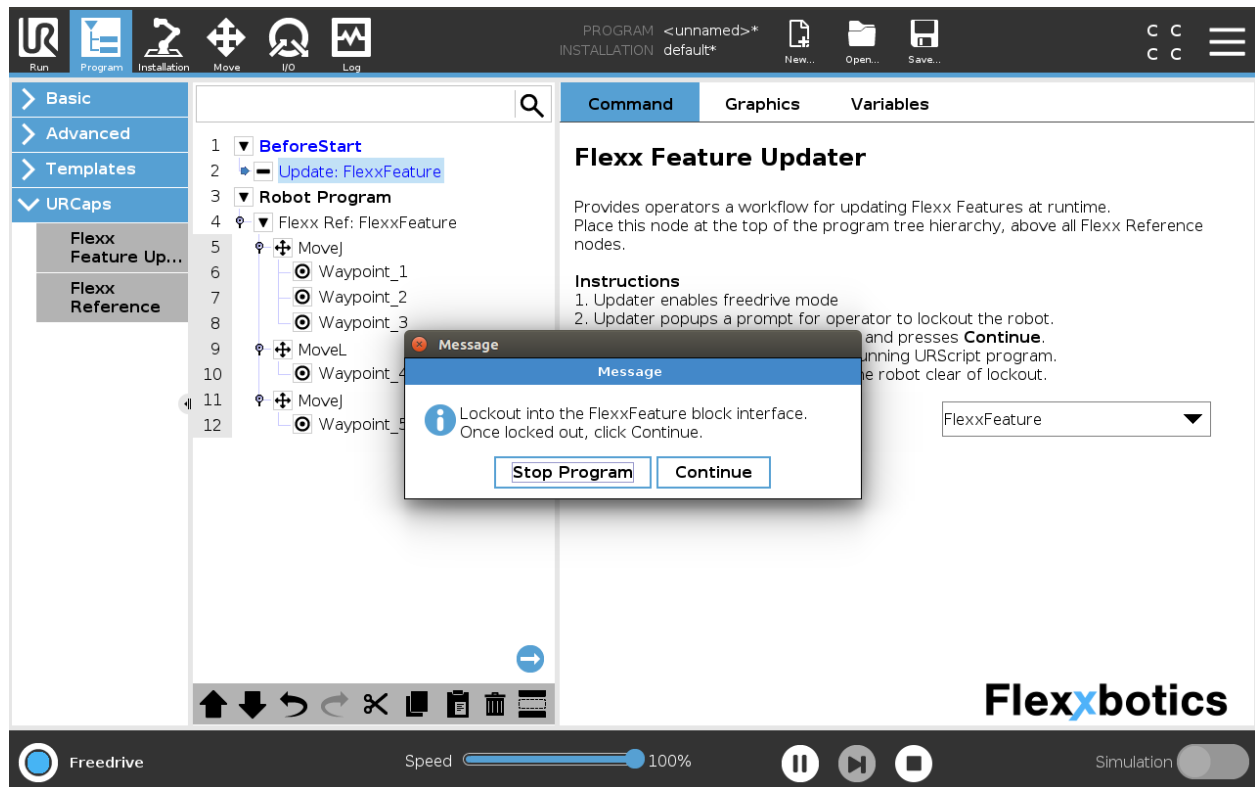
5.2.1. When the robot program reaches the Flexx Feature Updater Node, a prompt will appear instructing the user to lockout the robot into the Flexx Lockout Assembly. At this point, refer to Section 0 through **Error! Reference source not found.** for instructions to lockout the assembly.

**CRITICAL: WHEN PERFORMING THE LOCKOUT, ENSURE THE WITNESS MARK ON THE FEMALE AND MALE COMPONENTS ARE ALIGNED**

*NOTE: The robot will automatically be put in Free Drive mode at this point; therefore, two hands can be used to move the robot into the lockout assembly.*



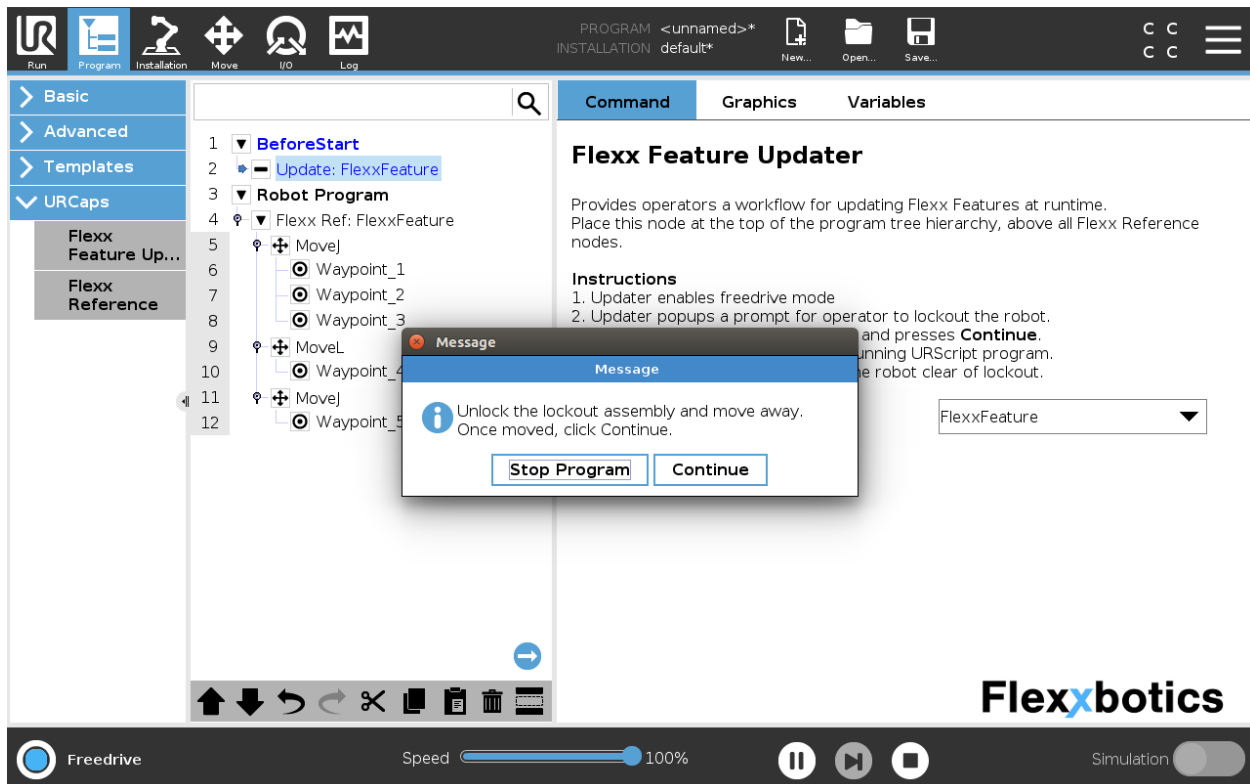
5.2.2. Once the robot is locked out, click **Continue** to update the pose of the Flexx Feature



5.2.3. After the Flexx Feature has been updated, a second prompt will appear, instructing the user to unlock the robot from the Flexx Lockout Assembly. At this point, the robot is still in Free Drive mode and can be lifted up and away from the Flexx Lockout block.

5.2.4. Once ready to continue running the robot program, click the **Continue** button.

*NOTE: It is important to step away from the robot before clicking Continue. The robot will immediately begin executing the remainder of the program after selection.*



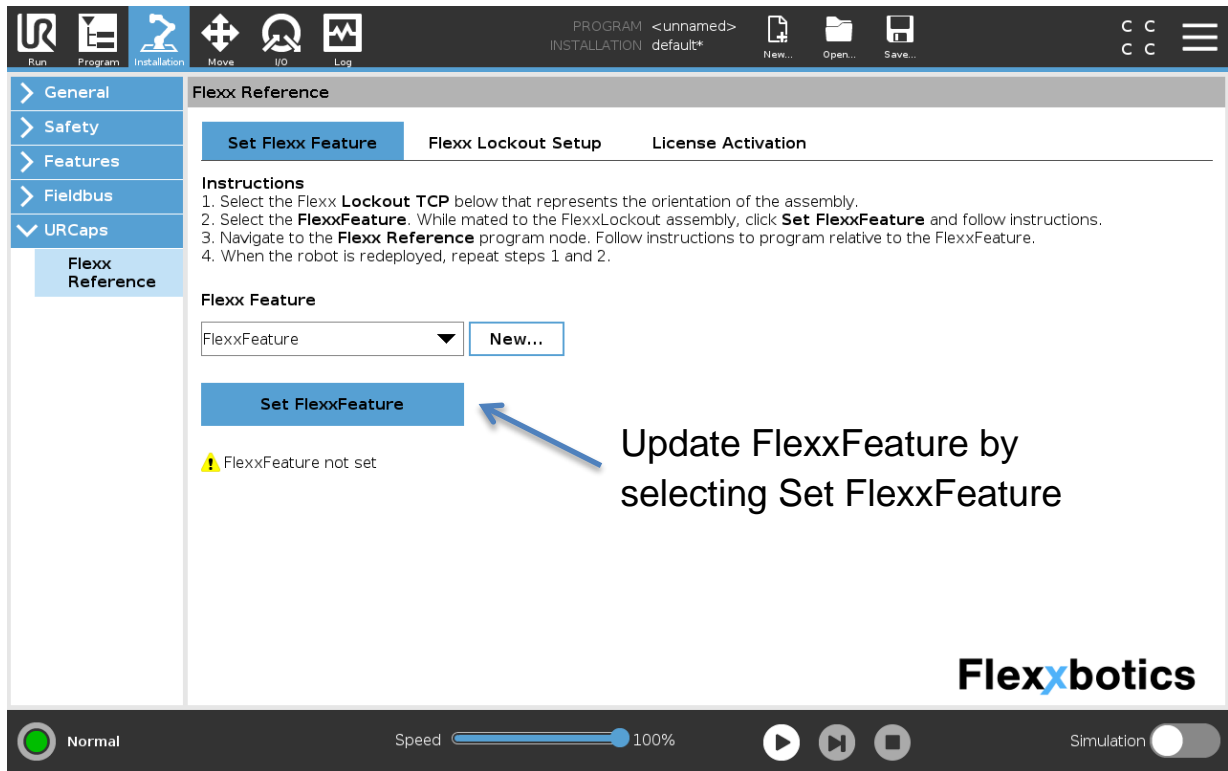
## 6. Updating a Flexx Feature From Installation Tab

During typical workflow, the Flexx Feature will be updated through the Flexxbotics Toolbar through the process in Section 4; however, if required, the following section outlines the proper method to updating or adding an additional Flexx Feature

### 6.1. Update Workflow

- 6.1.1. Open the existing program and installation file.
- 6.1.2. Navigate to the **Installation Tab** within Polyscope.
- 6.1.3. On the left side of the screen, click on the **URCaps** tab.
- 6.1.4. Select the **Flexx Reference** URCap. This will open the Flexx Reference Installation Node.
- 6.1.5. Use the radio buttons and **Set as Active TCP** button to select the **Flexx Lockout TCP** that represents the orientation of the male component of the assembly when mounted to the robot.
- 6.1.6. Select the **FlexxFeature** that is being updated.

6.1.7. Click **Set FlexxFeature** and follow the on-screen instructions to **FreeDrive** the robot to the **FlexxLockout** position.



6.1.8. **Free Drive** the robot to the Flexx Feature and mate it to the **Flexx Lockout** position following Section 2.4.

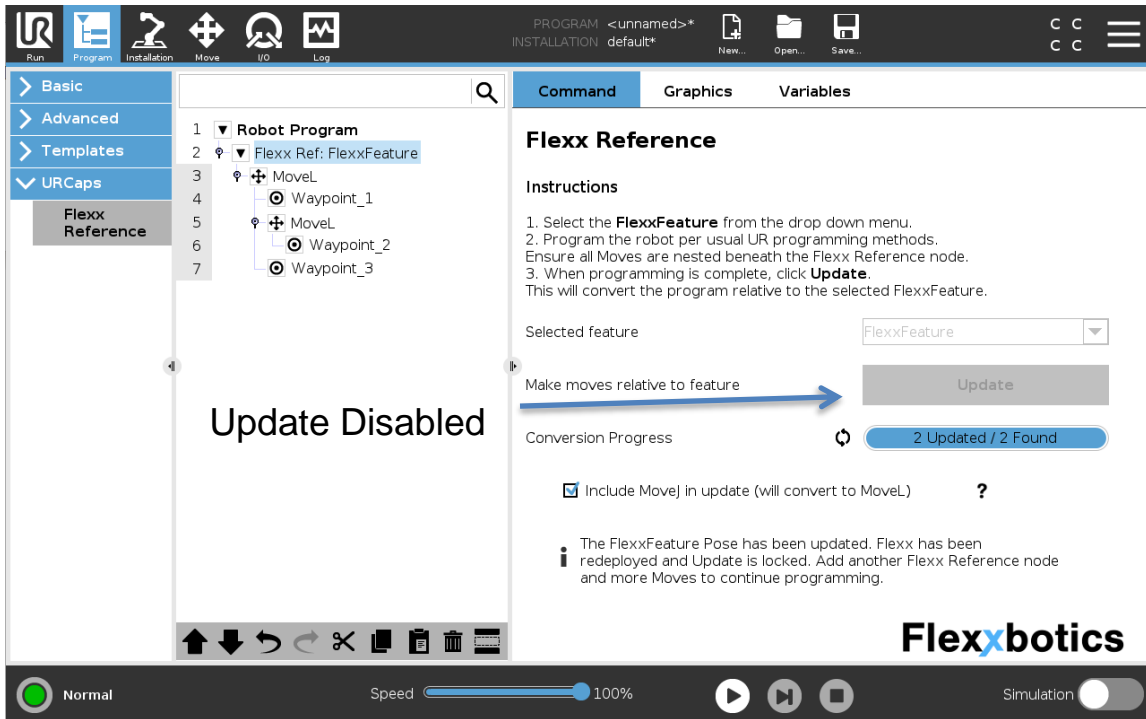
6.1.9. Once mated, click OK to update the feature.

6.1.10. The urcap automatically resets the **Active TCP** to the previous Active TCP prior to setting the Flexx Feature.

6.1.11. Navigate to the **Flexx Reference Program** Node. All waypoints beneath Flexx Reference have now automatically be updated relative to the feature pose change.

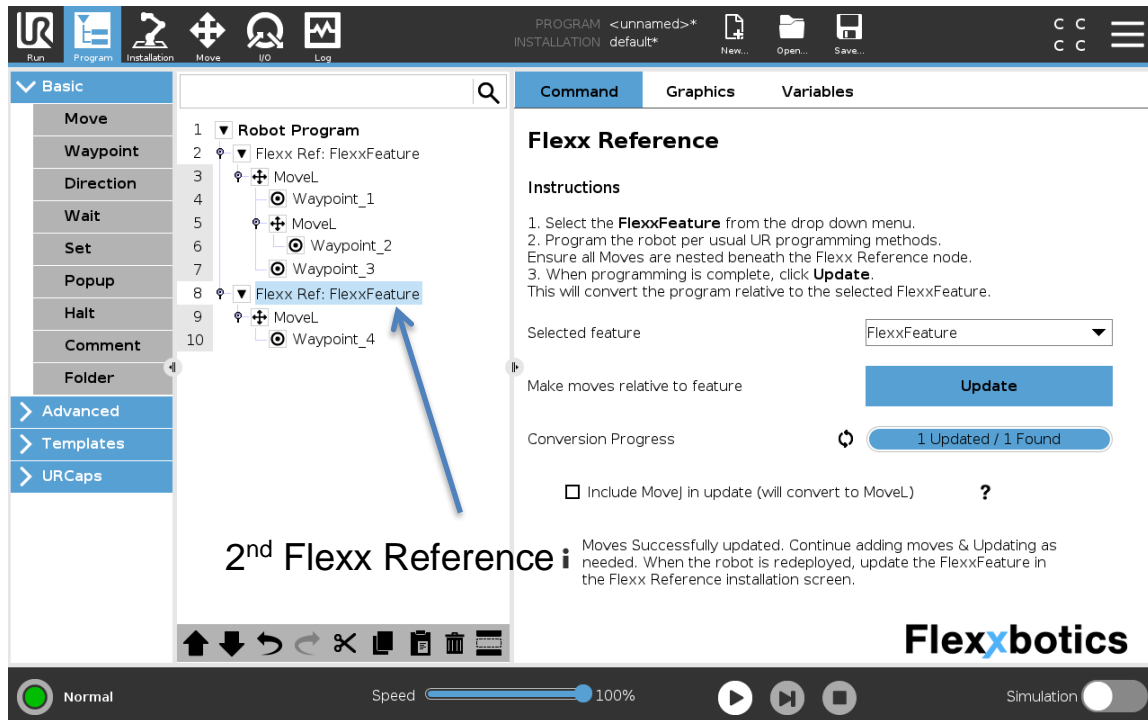
## 6.2. Adding Additional Moves / Waypoints After Update

6.2.1. After updating the selected feature pose, the user will no longer be able to add and update additional moves beneath the Flexx Reference Node. This is to ensure that the waypoints do not become invalid.



6.2.2. To add additional moves and waypoints, a new Flexx Reference node may be added and used to update moves relative to a Feature.

*NOTE: Although this is supported, it is recommended that the program be locked down and updated before re-deploying the robot.*



## 7. Re-Programming Existing Stationary UR Programs

The following section outlines the recommended workflow for re-programming an existing UR stationary program with a Flexx Reference Node.

- 7.1. Open the Installation file for the existing program and follow Section 2.1 URCap Installation and Section 2.2 License Activation to install and setup the Flexx Reference URCap.
- 7.2. Incorporate the Flexx Lockout assembly into the existing robot work cell.

***CRITICAL: Do not move the stationary robot until AFTER the program is updated. This ensures the waypoints of your existing program are translated accurately in real-world coordinates when updated relative to FlexxFeature.***

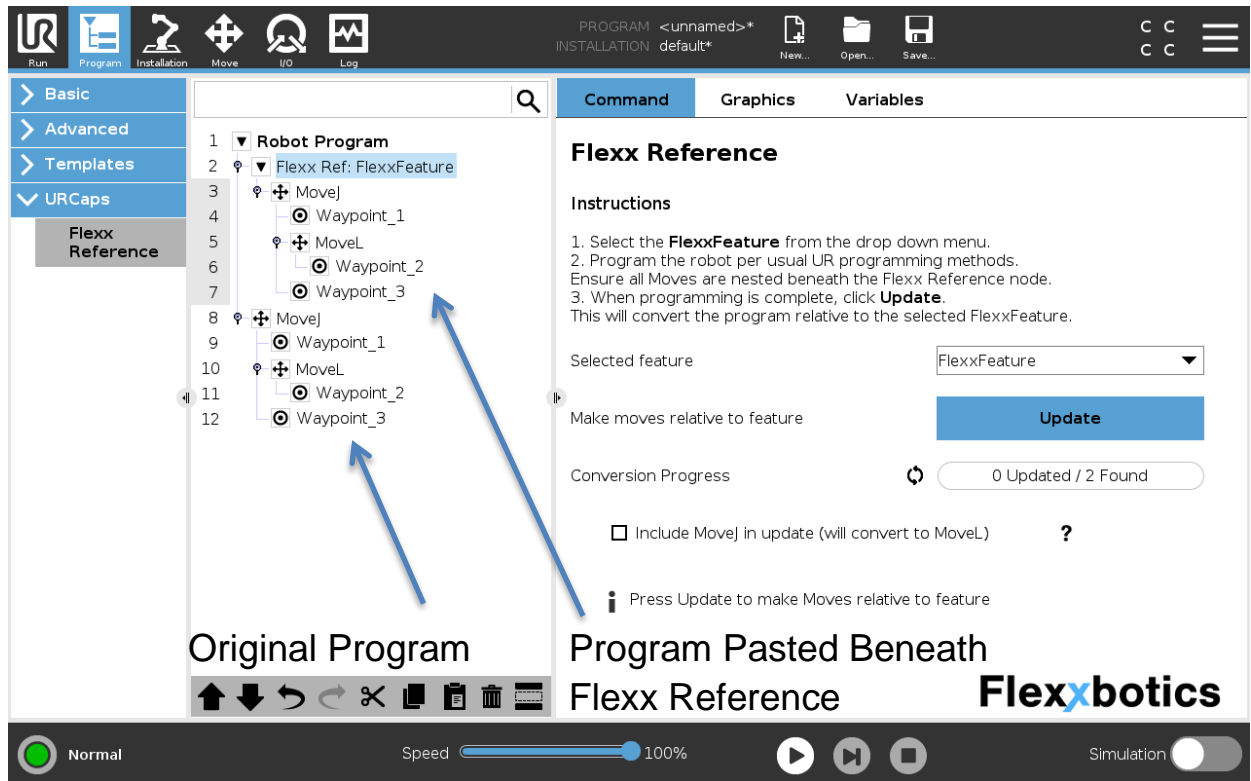
- 7.3. Set the Flexx Feature by following all steps in Section 2.4 Recording a Flexx Feature.
- 7.4. Open the Program file for the existing UR program and Add a Flexx Reference Node to the Program Tree by following all steps in Section 3.1 Adding the Flexx Reference Node.

***NOTE: The node should be nested at the top level of the UR Program Tree.***

- 7.5. **Select** the Flexx Feature set in the installation tab.

7.6. **Copy** and **Paste** the existing UR program, so that it is completely nested beneath the Flexx Reference node.

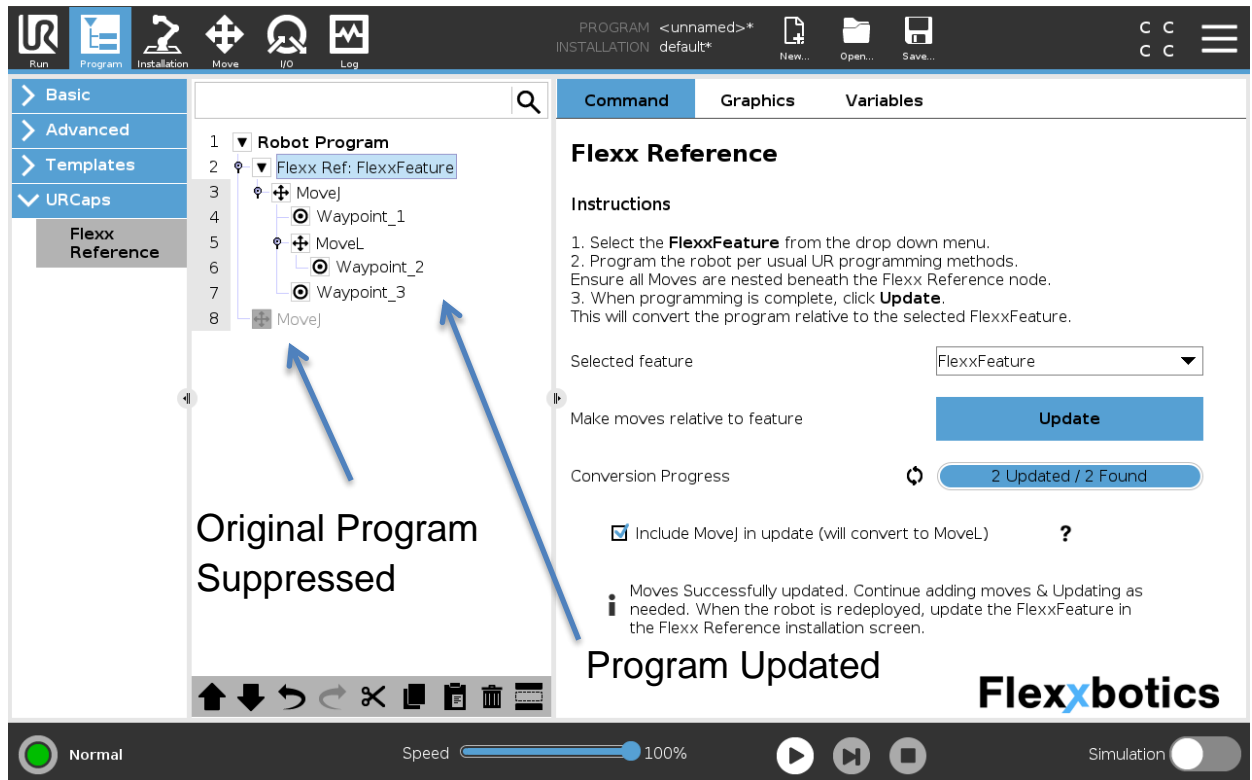
*NOTE: It is highly recommended to suppress the original program nodes until verification of the Flexx Reference program update is complete.*



7.7. After the existing program is completely nested beneath Flexx Reference, click the **Update** button and allow the Flexx Reference to re-configure the Move Nodes relative to the Flexx Feature.



7.8. Verify that the program runs as intended, then delete original program nodes.



## 8. URCap Uninstallation

- 8.1. Go to setup robot and navigate to the URCaps page
- 8.2. Select the FlexxBotics URCap from the list of active URCaps
- 8.3. Select the ( - ) button to delete the URCap.
- 8.4. Tap "Restart" (the URCap will then be uninstalled)

# APPENDIX I: TERMS AND CONDITIONS

## Terms and Conditions of Sale

### 1. Contract Formation

If this instrument is a quotation, whether or not responsive to a request from the Buyer, (“Buyer”), it constitutes the offer of FlexxBotics (“Seller”) to the Buyer, and becomes a binding contract under the terms and conditions set forth herein when it is accepted by the Buyer. However, any such acceptance shall be valid only if made within sixty (60) days of the date of this instrument or such other time period specified herein. If this instrument is an acknowledgment, it constitutes Seller’s acceptance of the Buyer’s order, subject, however, to the terms and conditions set forth herein. Upon the creation of a contract, this instrument will recite the entire agreement between the parties with respect to the goods, equipment or services being purchased, and shall supersede any other agreement, writing, or understanding whether made before or after the date of this instrument. Thus, Seller’s contractual obligations are expressly limited to the terms contained herein. The inclusion of any different or additional terms in any other instrument is objected to, and performance by Seller shall occur with the express understanding that only the terms and conditions recited herein shall control.

### 2. Terms of Payment

a) All payments are to be made in United States dollars.

b) When credit is extended by Seller, invoices shall be due and payable within thirty (30) days from invoice date. Any amount unpaid thirty (30) days after invoice date shall bear interest at the lesser of the rate of one and one-half percent (1.5%) per month or the highest rate permissible under applicable law, calculated daily and compounded monthly. However, notwithstanding the foregoing, Seller retains the option to refuse or to revoke credit, and to require immediate payment of all outstanding balances and payment on delivery for all future

deliveries.

c) Buyer shall be responsible for all taxes, duties and similar charges in connection with the goods, equipment or services being purchased, including VAT, sales, use, excise and other transaction taxes associated with same. If any deduction or withholding is required by applicable law, Buyer will so notify Seller and will pay any additional amounts necessary to ensure that the net amount received by Seller, after any deduction or withholding, equals the amount Seller would have received if no deduction or withholding had been required. In addition, Buyer will provide Seller with documentation sufficient to show that the withheld or deducted amounts have been paid to the relevant taxing authority.

d) Buyer agrees to pay any expenses incurred by Seller in collecting any unpaid balance of the purchase price, or in recovering possession of goods, including reasonable attorney’s fees.

e) If Seller extends credit to the Buyer, then for the purpose of securing payment and performance of all of Buyer’s obligations hereunder, Seller shall retain a security interest in all of the goods being sold pursuant to this agreement. At Seller’s request, Buyer shall execute and join in executing all financing statements and other instruments, in form satisfactory to Seller, which Seller deems necessary or desirable to perfect its security interest in the goods being sold pursuant to this agreement.

f) Transfer Prices do not include and are net of any foreign or domestic governmental taxes or charges of any kind that may be applicable to the sale, licensing, marketing, or distribution of the Products, including without limitation excise, sales, use, property, license, value-added taxes, franchise, withholding or similar taxes, customs or other import duties or other taxes, tariffs or duties (other than taxes which are imposed by any government entity based on the net income of the Company). Any such taxes incurred and paid by the Company shall be billed to and promptly reimbursed by the Distributor. The Distributor shall also be the importer of record in connection with the sale of any Products outside

of the European Union.

### 3. Project Execution/Acceptance Tests

a) If applicable, the contract shall include (a) date(s) before which design data shall be provided by the Buyer to Seller, as required by Seller for the adaptation of the product to the Buyer's specification, as agreed upon. If the contract provides for design review meetings to be held by the Buyer and Seller, the meeting(s) shall be held at Seller's premises, unless specifically agreed otherwise. At such design review meetings, Seller shall provide system design information, interface data and/or acceptance test criteria to the Buyer. Unless specifically agreed otherwise, the Buyer shall strictly adhere to such information, data and/or criteria, in order to ensure successful product use, installation, acceptance and/or integration into Buyer's equipment. If the Buyer causes delay, including delay in providing the required design data, delay of planned design reviews, delay in delivery of equipment to be supplied by the Buyer or a third party, or delays in activities as described in Section 3(d), Buyer shall nevertheless pay according to the originally agreed payment schedule dates. In addition, the Buyer shall compensate Seller for any additional costs Seller incurs as a result of this delay.

b) Acceptance tests provided for in the contract shall, unless otherwise agreed, be carried out at the place of manufacture during normal working hours ("**Factory Acceptance**"). If the contract does not specify the technical requirements, the tests shall be carried out in accordance with industry standard practice.

c) At Buyer's request, Seller shall notify the Buyer in writing of the acceptance tests in sufficient time to permit the Buyer to be represented at the tests. If the Buyer is not represented, the test report shall be deemed to be accurate and shall, at Buyer's request, be sent to the Buyer.

d) If the contract provides for installation activities and/or acceptance tests to be performed by Seller after arrival of the product at the site of the Buyer ("**Site Acceptance**"), the Buyer shall ensure that, prior to arrival of Seller personnel, any preparatory work, agreed to be performed by the Buyer, shall be completed. The Buyer shall also ensure that the following conditions are satisfied:

i) Seller personnel shall be informed of all relevant safety and/or security regulations in

force at the site;

ii) suitable office space and telecommunication facilities shall be made available to Seller personnel;

iii) suitable lifting and/or handling devices along with operating personnel shall be made available to Seller personnel; and

iv) protected storage facilities shall be provided for Seller property and/or the personal effects of Seller employees.

### 4. Packing and Shipment

Packing and shipment shall be in accordance with good commercial practice.

### 5. Delivery and Title

a) Delivery shall be FOB Seller's (or its manufacturer's) facilities in accordance with INCO terms. Title (except title to Programs) and risk of loss shall pass to the Buyer at the FOB point.

b) Under no circumstances shall Seller have any liability whatsoever for delays, loss of use, or for any indirect or consequential damages arising from any delay or loss of use.

c) Seller shall not be responsible for the failure to perform any obligation arising hereunder due to events beyond its control. These events shall include, but are not limited to, fire, storm, flood, earthquake, explosion, accidents, acts of public enemy, sabotage, strikes, labor disputes, labor shortages, work stoppages, transportation embargoes or delays, failure or shortage of materials or machinery used by Seller in the manufacture of the goods supplied hereunder, acts of God, failure of suppliers or subcontractors to satisfactorily meet scheduled deliveries, and acts or regulations or priorities of federal, state or local governments or branches or agents thereof.

d) No claim for shortage in packaging shall be allowed unless reported to Seller, in writing, within ten (10) days after receipt of goods.

### 6. Proprietary Rights

a) Except as otherwise provided in this Section 6, the Buyer shall not receive, as a result of the sale of goods hereunder, any right or license of any kind under any intellectual property rights or other proprietary rights owned or controlled by Seller, or under which Seller may be licensed.

However, the foregoing provision shall not limit the right of the Buyer to use or sell such goods, in the event such goods are covered by any such intellectual property or proprietary rights owned or controlled by Seller.

b) The provisions of this Section 6(b) apply only to Programs provided by Seller pursuant to this agreement. In the event a provision of any other section of this agreement conflicts with a provision of this Section 6(b), the provision of Section 6(b) will control as it relates to Programs. For purposes of this agreement, **“Programs”** means the computer programs, software, firmware and related documentation provided by Seller to Buyer under this agreement, including any customizations, enhancements, updates, upgrades, releases, replacement or successor products, defect corrections, and other modifications provided to Buyer by Seller, that is pre-loaded or pre-packaged with hardware or other goods or equipment, or embedded into hardware, goods or equipment, or otherwise provided solely for use in conjunction with the hardware, goods or equipment provided hereunder.

i) As between Buyer and Seller, Seller (or its licensor) owns all right, title and interest (including all intellectual property rights) in and to the Programs, and nothing contained in this agreement may be construed to convey to Buyer any intellectual property rights in or to the Programs other than the limited rights set forth in Section 6(b)(ii) below.

ii) Seller grants to Buyer a worldwide, non-exclusive, non-assignable (except as otherwise provided herein) license to use the Programs solely in conjunction with the hardware, goods or other equipment in connection with which the Programs are provided. Buyer may assign its license to a Program to a subsequent purchaser (or other transferee) of the hardware, goods or other equipment in connection with which the Programs are provided, provided that the assignee agrees to be bound by the terms and conditions of this Section 6.

iii) Buyer shall not: (1) copy the Programs; (2) modify, adapt, alter, translate, localize or create derivative works of the Programs; (3)

reverse engineer, decompile, disassemble or otherwise attempt to derive the source code for the Programs; (4) distribute, transfer, sublicense, sell, use for service bureau, hosting or time sharing processing operations, reuse for any other purpose, lease, rent or loan the Programs; (5) remove, alter, cover or obfuscate any copyright, patent or other proprietary rights notice placed in or on or displayed by the Programs; (6) frame or mirror any content forming part of the Programs; (7) access the Programs in order to (a) benchmark against or build a competitive product, or (b) copy any ideas, features, functions or graphics of the Programs; or (8) otherwise exercise any rights in or to the Programs except as expressly permitted under this agreement.

## **7. Limitation of Liability**

IN NO EVENT SHALL SELLER BE LIABLE TO BUYER (OR ANY PERSON OR ENTITY CLAIMING THROUGH BUYER) FOR BUYER'S LOST PROFITS OR SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES ARISING OUT OF OR IN ANY MANNER CONNECTED WITH THIS AGREEMENT OR ITS SUBJECT MATTER, REGARDLESS OF THE FORM OF ACTION AND WHETHER OR NOT SELLER HAS BEEN INFORMED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED, THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, THE CUMULATIVE LIABILITY OF SELLER TO BUYER FOR ALL LOSSES, CLAIMS, SUITS, CONTROVERSIES, BREACHES AND DAMAGES FOR ANY CAUSE WHATSOEVER, AND REGARDLESS OF THE FORM OF ACTION OR LEGAL THEORY, SHALL NOT EXCEED THE AMOUNTS ACTUALLY PAID TO SELLER BY BUYER UNDER THIS AGREEMENT IN THE TWELVE (12) MONTH PERIOD PRECEDING THE EVENT GIVING RISE TO THE LIABILITY.

## **8. Seller's Standard Product Warranty**

a) Seller warrants that each item of its manufacture shall, at the time of shipment to Buyer, conform to applicable specifications and

drawings in all material respects, and be free from material defects in material and workmanship (the “**Warranty**”). Design, essential performance, or other provisions expressly stated to be goals or objectives shall not be deemed to be requirements subject to this Warranty.

b) Seller’s obligation under this Warranty shall be limited to repair or replacement, at Seller’s option, of any item which within three (3) months from date of shipment to Buyer is proven to Seller’s satisfaction to have been nonconforming at the time of shipment. As a condition of this Warranty, Buyer shall notify Seller in writing of any claimed nonconformance immediately upon discovery and shall return the item to Seller for inspection. Seller shall not be responsible for any work done or repairs made by others at any time. Disassembly by anyone other than persons authorized by Seller will void the terms of this Warranty.

c) Seller shall not be liable for improper use, installation, accidents, operation or maintenance of items manufactured or provided by Seller, or for any damage resulting therefrom, or from negligence on the part of Buyer’s employees or agents.

d) Seller shall not provide field repairs, modifications, or any other field service under this Warranty.

e) THE WARRANTIES CONTAINED HEREIN ARE EXCLUSIVE AND ARE GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. EXCEPT FOR THE WARRANTIES EXPRESSLY PROVIDED IN THIS SECTION 8, ALL GOODS, HARDWARE, EQUIPMENT, PROGRAMS AND OTHER ITEMS PROVIDED UNDER THIS AGREEMENT ARE PROVIDED “AS IS” AND “WITH ALL FAULTS”.

## **9. Information, Data and Design**

Any proposals, prints, brochures, drawings, designs, data or other information furnished to the Buyer by Seller before, after, or contemporaneously with the execution of this contract are intended for confidential use by the Buyer, shall remain the property of Seller, and

shall not be used to the detriment of Seller’s competitive position. When given, all such proposals, performance and production projections, prints, brochures, drawings, designs, data and other information are based on Seller’s knowledge and understanding, but are, in all events, estimates only and are not guaranteed or warranted in any respect. The providing of any design information by Seller shall not constitute an assumption of design responsibility unless otherwise expressly assumed by Seller.

## **10. Cancellation of Contract**

Under no condition may the Buyer cancel its obligations under this contract. Any attempt to do so will entitle Seller, in its sole discretion, to either (a) recover all direct, indirect, and consequential damages arising by reason of such attempted cancellation, or (b) retain as liquidated damages any Buyer deposit made under this contract.

## **11. Governing Law**

The substantive laws of the State of Maine will in all respects govern this agreement as though this agreement was entered into, and was to be entirely performed within, the State of Maine, without regard to conflict of law principles.

## **12. Assignment**

The Buyer’s rights may not be assigned or otherwise transferred to any other person, whether by operation of law or otherwise, without Seller’s prior written approval.

## **13. Waiver**

Waiver by Seller of any breach of any of these provisions, or its failure to exercise any right or remedy, shall not be construed as a waiver of any other breach, or a waiver to exercise any other right or remedy.

## **14. Severability**

If a court of competent jurisdiction declares any provision of this agreement to be invalid, unlawful or unenforceable as drafted, the parties intend for that provision to be amended and construed in a manner designed to effectuate the purposes of the provision to the fullest extent

permitted by law. If a provision cannot be so amended and construed, it will be severed, and the remaining provisions will remain unimpaired and in full force and effect to the fullest extent permitted by law.

#### **15. Indemnification**

If any goods are made in compliance with Buyer's plans, designs, specifications or instructions, Buyer shall indemnify and hold harmless, and defend Seller from and against any damage, loss, expense, liability, claims, suits, judgments, decrees and costs (including reasonable attorneys' fees) (collectively, "**Damages**") caused by or relating to the plans, designs, specifications or instructions for such goods, including any alleged or actual infringement or misappropriation of the intellectual property rights or other rights of any third party. In addition, Buyer shall indemnify and hold harmless, and defend Seller from and against any and all Damages arising out of or relating to (i) claims made by Buyer's employees or agents for injuries or damages including death, arising from or related to tasks performed under this quotation or contract, and/or (ii) Buyer's negligent or improper installation of any goods, hardware, equipment or other items provided by Seller hereunder.

## APPENDIX II: CONTACT INFO

### Website

[www.flexxbotics.com](http://www.flexxbotics.com)

### Phone

1 (877) 456-1576

Sales EXT. 1

Technical Support and Engineering EXT. 2

Accounts Receivable EXT. 3

### Email

[sales@flexxbotics.com](mailto:sales@flexxbotics.com) for all commercial and pricing inquiries

[support@flexxbotics.com](mailto:support@flexxbotics.com) for all technical issues and questions