# Haas Robot Packages

# TOOL FRAMES
## QUICK GUIDE



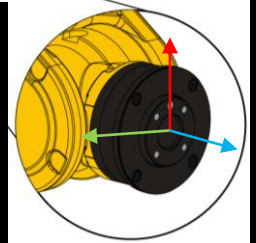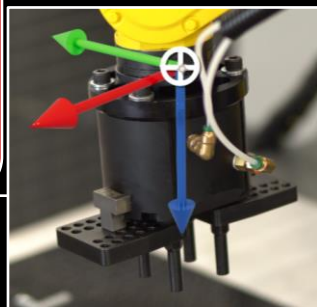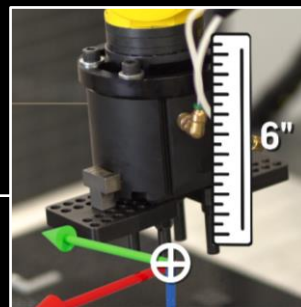| | |
|---|---|
| **What are they?** | Tool Frames define the coordinate systems for the gripper used at the end of the robot arm. The origin and orientation of the coordinate system moves with the gripper as the robot moves. |
| **Why should I care?** | Tool Frames are used to adjust the gripper angle in order to properly pick up the stock at the worktable and properly seat it in the workholding. |
| **What is the default frame?** | The origin of the default Tool Frame is located at the center of the faceplate on Joint 6 of the robot. X+ shoots out from the center through the locator hole and Z+ shoots out away from the robot.  |
| **Why should I make a new one?** | New Tool Frames ensure that the coordinate system rotates around the center of the part instead of the center of the faceplate. If the center of your part is the origin, rotational adjustments are far easier to make. |
| **How do I make a new one?** | **Direct Entry:** <br> • **Linear Changes (X, Y, or Z rows)** <br> • **Rotational Changes (W, P, or R rows)** |

**Example**

**DEFAULT:**



**DESIRED:**



**SOLUTION:**

Direct Entry

Tool Frame

| | |
|---|---|
| Comment: | SINGLE |
| X | 0.0 |
| Y | 0.0 |
| Z | 6.0 |
| W | 0.0 |
| P | 0.0 |
| R | 0.0 |

Enter [ENTER]    Exit [UNDO]

# Haas Robot Packages

# USER FRAMES
## QUICK GUIDE
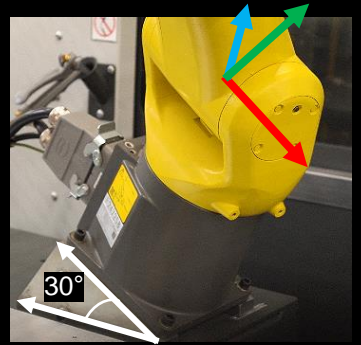


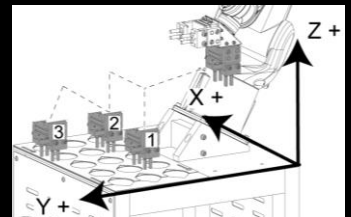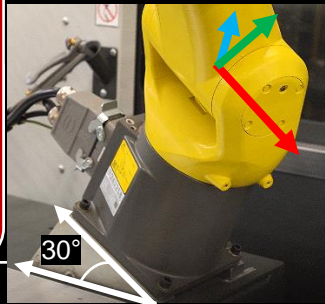| | |
|---|---|
| **What are they?** | User Frames define the coordinate system for the robot base and workspace. The origin and orientation do not move as the robot moves. |
| **Why should I care?** | User Frames are used to jog the robot in designated directions. |
| **What is the default frame?** | The default origin of the User Frame is located at the intersection of the J1 and J2 axes. For the HRP-1, the **X+** shoots out opposite to where the cabling mount attaches with **Y+** a positive quarter turn counterclockwise from that.  |
| **Why should I make a new one?** | New User Frames ensure that the robot moves (in **X**, **Y**, and **Z**) in a way that makes sense for the directions and angles of your current work zone. For example, an angled frame is needed for an angled parts table. |
| **How do I make a new one?** | **Three Point** (Manually jog the robot to record three points as required):<br>• **Orientation Point**<br>• **X+ direction**<br>• **Y+ direction**<br>**Direct Entry** (easiest, most common):<br>• Linear Changes (**X**, **Y**, or **Z** rows)<br>• Rotational Changes (**W**, **P**, or **R** rows)  |
| **Example** | **DEFAULT:**    **DESIRED:**    **SOLUTION:**  |
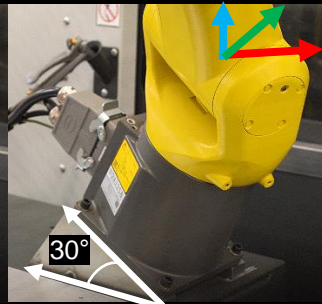
**SOLUTION:**

**Direct Entry**

User Frame

| | |
|---|---|
| Comment: | VIDEO |
| X | 0.0 |
| Y | 0.0 |
| Z | 0.0 |
| W | 0.0 |
| P | -30.0 |
| R | 0.0 |

Enter [ENTER]    Exit [UNDO]