SETTING UP THE 4TH AXIS ON HAAS

* Make sure the table is clean and place the 4th axis with a help of a fork lift.
* Once the 4th axis is placed on the table, make sure the E-stop is pressed during the entire setup process.
* Bolt the 4th axis to the table with the help of T-nuts.
* Take the power cable out the rectangular slot provided inside the machine and connect the air inlet, power and input cables at the back of the machine.
* Check for the model number at the bottom left corner of the 4th axis.
* Example “ HRT 310 P3”
* Go to setting and then select rotary.
* Enable the 4th axis and select the model number in the drop down menu provided.
* Click F3 to apply the rotary.
* Clear the model existing on the current 4th axis (only if it is a different number other than the selected model number)
* Once applied, power OFF and power ON.
* It should looks like something below.

|  |  |  |  |
| --- | --- | --- | --- |
| * 4th axis | * A axis | * HRT310P3 | * Normal |

* 4th axis rotation goes like this:

X axis is A placed vertically on the table

Y axis is B placed horizontally on the table

Z axis is C placed flat on the table opposite to the spindle

* After completion of all steps it should appear like this on the screen.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4th axis | A axis | Base | HRT310P3 | Normal |

* Close the door and Power up.
* Dial the flat surface of the 4th axis which looks like a chuck, place the probe of the indicator to touch the flat side and touch one side and make it “0” and move Y in the direction required, make sure it is “0”.
* Simultaneously, tighten the T nut with the adjustable or the exact wrench size after the dial reads “0” over the surface.
* Note: the shaft goes opposite to the flat surface of the fixture, the 4th axis has a coupling which has to be hammered and taken out before placing the flat surface of the fixture to the 4th axis.
* Make sure WD-40 is sprayed all over the rotary axis which will be in motion.

SETTING UP WORK OFFSET

* Take the dial indicator and dial the flat surface of the fixture and make sure it is 0. Touch one side of the fixture and make it “0” and adjust A axis accordingly.
* To set the Y work offset, use the edge finder and touch a circular part of the 4th axis, touch one side, press origin (All in operator position), touch the other side and divide by 2 to reach the centre of Y. Note: you need not give the edge finder radii as it is concentric.
* Z is given by the height of the fixture from the table. For instance if the fixture is 1.5 inch thick, the value will be -0.75 for z axis which will be in the centre of the fixture.
* To touch X, set the part in the fixture and take the work offset on the edge, remember to give 0.1 radii compensation for this.

SETTING THE TOOL OFFSET

* Once the 4th axis is set, a list of tools required is made from the program.
* Every tool is set in a holder and touch off from the centre of the fixture.
* Required compensation is given for every tool, this depends on the type of tool, it can be given as 0.010 thou or 0.020 thou.