

TSG The Service Group



Here is the procedure for changing the gridshift of a 5-axis machine with a FANUC 15MA or 15MB.

Read all the way through before performing ANY changes!

1. Zero-return the tables and look at the distance between the hard over-travel and deceleration dog and switches. We want the switches in-between the dogs, preferably in the middle, see the "[Grid Shift Starters for Single Table Machines](#)".
2. Select “**MDI**” mode of operation.
3. Flip the “**Memory Protect**” switch up, yellow one.
4. Measure the distance difference from where the axis is now to where you want it to be.
5. Push the “**Setting**” button to show the parameters.
6. Type in **8000** and push the “inp no.” soft key to find parameter 8000, then cursor over to bit #0, far right, and change bit #0 to a **1**, press “input”. **NOTE *** You have to be in MDI mode to change it. *****
7. At this point you will have a “**Parameter Write Enable**” alarm. You cannot clear this alarm until parameter 8000 bit #0 to a 0.
8. Push the “**Service**” button, usually once, to show the system parameters. Type in **1850** and push the “inp no.” soft key to find parameter 1850. You will see each axis’s grid shift at this point.
9. Using the **cursor controls** select the axis you want to change. Input a number in a positive direction in an increment of **2000** and push the soft key “**input +**”. (For the B and C-axis an input of 2000 will make a very large movement. Instead use the MPG and move the B or C-axis the amount of correction you need to get zero on your dial indicator. Then check the position screen for the amount of deviation, including the direction. For example you adjust the B-axis and the position screen reads 0.015, then you would add a +15 to the grid shift. If the position screen reads 359.990, then you would add a -10 to the grid shift.)
10. At this point you will get an alarm saying to turn off power. **Turn off the controller for at least 30 seconds**, then turn it on again and zero return the axis. Check the distance moved and direction for the axis you changed. If it went the wrong way then “**input +**” a negative number. If it when the right way then keep using positive numbers until the axis lines up to where you want it.
11. You can figure out how big of a number to use by finding the distance moved and dividing that by how much more you have to go to fix it. For example, if you input + 2000 and the axis move 0.125” in the correct direction, and you need to move it 0.375” more still, then you would input + 6000 more to correct the position. Or if the axis moved 0.125” in the wrong direction, and you now have 0.675” to correct, then input + -10000.

12. ***As a note***, some controller's leave the "**Parameter Write Enable**" turned on after you have turned off the controller and turned it back on, some do not. If your controller does not, then you will have to set parameter 8000 bit #0 to 1 in the "Setting" screen before changing 1850 in the "Service" a second time. If the parameter write is still enabled, you will still have the alarm when you turn it on again.
13. Once you have the axis corrected, check that the parameter write has been disabled by going to the "Setting" screen and checking that parameter 8000 bit #0 = 0. If not set it to 0 and then clear the alarm.

If you have any questions, please don't hesitate to call.