**Purpose:**

To assure that the TANGO is maintained according to the User’s Guide and the manufacturer’s recommendations.

**Required Materials:**

* CLR Water
* New Suspension Cup
* Disinfectant
* USB Storage Device

**Procedure:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| **Preparation** | | |
| 1 | Obtain the maintenance form and record the date and initials of the person performing the maintenance as it is completed. |  |
| **Monthly database backup** | | |
| 2 | Click on ‘Database Management’ |  |
| 3 | Select the ‘Backup’ tab   * Select the databases to be backed up, by clicking in the small white box. A check mark appears in the box.   + All databases are backed up at monthly maintanence |  |
| 4 | Click in ‘Export’ to open the ‘Copy selected databases’ window. |  |
| 5 | Connect the USB storage device to the PC. |  |
| 6 | Enter the target path into the ‘Target path’ text box E.g. ‘f:\’   * Note: this will be assigned by the computer. After attaching the flash drive and providing the password in TrueCrypt, the computer will open the flash drive’s folder. The assigned letter to the flash drive will be in the top left corner. |  |
| 7 | Click on ‘Start Copying’ |  |
| 8 | After copying has been completed, click on ‘Logout USB Device’ |  |
| 9 | Remove the USB storage device. |  |
| **Step** | **Action** | **Related Documents** |
| 10 | Select the ‘Definitions’ tab and click ‘Reset’ to activate the next backup reminder message only after the specified number of days.   * 30 days |  |
| 11 | Click on ‘OK’ to save the settings and close the window. |  |
| 12 | Insert USB device into “blue” computer (one with internet capability) |  |
| 13 | Enter password and open hmc\_tss\Tango\Tango.BackupFiles |  |
| 14 | Create the appropriate folder for the month’s backup |  |
| 15 | Using right click “cut and paste” functions, remove (cut) file from the USB drive, and add (paste) into the above file. |  |
| **Check Pipettor Needle position** | | |
| 16 | On the Main Menu, select Maintenance / Teach Coordinates. |  |
| 17 | The two pipetting needles will move to the front corners of the instrument. |  |
| 18 | The middle of the screen will show a schematic representation of all the “teaching positions” for the needles.   * A rectangle below the schematic will read “Device Initializing”. * Wait until the message changes to “Please select area to adjust”.   NOTE: DO NOT change any settings in the “Teach Coordinates” program for other reference positions other than the Right and Left Pipettor Needles. Changing the other coordinates may cause the needles to crash and damage the instrument. |  |
| 19 | * Select the ‘Ref Left’ button. * The left needle will move to a position over the reference position. * The teaching window will open in the center of the screen. * Use the left shift 4xs (each time goes down 1/2 the distance, then 1/2 again, etc) then your page up and down keys. * The needle will move down to its reference position. * The needle should be directly over the small white cavity in the center of the reference position and flush with the top edge of the reference point.   NOTE: A single sheet of standard copy paper should be able to be placed between the needle and the reference position. |  |
| 20 | * Check needle position. * If the needle is not properly positioned: * Verify that the needle is not bent. If it is, it may be gently straightened. * If alignment is slightly off (3-4 mm) adjust the X, Y and Z axis. * The arrow keys on the keyboard control the X-axis (left/right) and the Y-axis (front/back). * The “PgUp” and “PgDn” keys control the Z axis. * If alignment is off more than slightly, contact Technical Support. |  |
| **Step** | **Action** | **Related Documents** |
| 21 | * Once the left needle is properly aligned, select OK from the screen to save the coordinates and close the teaching window. * Select the ‘Right Ref’ button. * The right needle will move to a position over the reference position. * The teaching window will open in the center of the screen. * Follow steps E.3.d-f above.   Select the ‘Quit’ button to close the ‘Teach Coordinates’ window and return to the TANGO program. |  |
| 22 | Turn TANGO and TANGO computer off  To turn off: Turn off the computer then turn off the Tango. |  |
| **Replace Suspension Cup** | |  |
| 23 | Remove acrylic glass cover and remove the gray plastic cover above the suspension cup. |  |
| 24 | Remove the cup by pulling straight up from the top. |  |
| 25 | Wipe the inside of the splash bowl with gauze or paper towel. |  |
| 26 | Remove the plastic splash bowl and inspect it for cracks or breaks.   * If there are cracks or breaks, replace with a new splash bowl. * If no cracks or breaks are present, clean the splash bowl with 10% bleach solution or other disinfectant used in the lab. |  |
| 27 | Rinse the cleaning solution from the bowl or wipe with a cloth moistened with CLR water and then dry the bowl.   * Ensure that the splash bowl is completely dry and that no liquid escapes the splash bowl. * The electronics or motor may be damaged by exposure to liquids. * Residual cleaning solution left in the cup may lead to hemolysis. |  |
| 28 | Replace the splash bowl. |  |
| 29 | Insert a new suspension cup from the top, ensuring that the new cup is completely seated on the hexagon motor axis. |  |
| 30 | Clean the gray plastic cover with CLR water, dry completely and place it over the cup. |  |
| 31 | Reinsert the Acrylic Glass Cover. |  |
| 32 | Turn on the TANGO.  To turn on: Turn on the Tango first and then turn on the computer. |  |

**Referenced Documents:**

TANGO User Guide, Version 3.0.2