



# **Machine Check Points for a Scheduled Shutdown**

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## **Makino Customer Service**

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## **Before Shutting Down The Milling Machine**

- 1. Remove tools from Spindle and clean spindle taper and apply grease to avoid rusting**
- 2. Ensure the machine table, LM guideways, Ballscrews free from coolant and apply grease at exposed area.**
- 3. Check the battery voltage and ensure all drives & system battery are healthy and replace if the voltage less than 5V.**
- 4. Take machine back up if possible and keep it safe.**
- 5. It is better to keep all the axis at the centre before shutting down.**
- 6. MTC cabinet doors close properly and ensure no eatable left over nearby MTC to avoid rat entry and damage cables and other parts.**
- 7. Ensure the chips are cleared from machining chamber and telecovers.**

## **Before Power On After Long Period**

- 1. Remove grease from the table, ATC arm and cleans those areas thoroughly.**
- 2. Check around the machines for any sign of rat or other creatures' movement around the machines**
- 3. Open MTC and check any sign of cable damage due to rat bite and any sign of entering rats into MTC**
- 4. If cable damage, identify those and replace before power on.**
- 5. Check incoming power supply and confirm the voltage within acceptable range.**
- 6. Turn off all the contactor and ON the main MCB and ensure the incoming supply to MTC are perfect.**

## After Power On

1. Top up grease and oil if required.
2. Release Emergency after controller is ON and check any alarms appears on the screen.
3. Clear those alarms and reference all axis.
4. Run Spindle from lower RPM to maximum speed in steps of 500 with tool loaded on to spindle.
5. Check all the functions and warm up the machine.

**Additional Points for WIRE machine  
during long shut down**

- 1. Clean the upper head, lower head and dry it free from water.**
- 2. Clean the work tank free from dirt and dry the tank.**
- 3. Clean the Jet nozzles and the wire guide unit and dry it.**
- 4. Clean the D Roller, H, I rollers, LM rollers and dry it.**
- 5. Check the machine for any moisture content and clean them.**
- 6. Do not allow water to be on the table or the work tank, need to be clean and dry.**
- 7. Remove the wire from the wire path.**
- 8. Do not leave the work piece on the table.**

## **Power ON the WIRE Machine**

- 1. Do not power ON the machine same time with all other machine in the factory.**
- 2. Wait for a while for about 10 to 15 minutes and then power ON the machine.**
- 3. Check and release air lock on the ION bottle.**
- 4. Top up the water if insufficient water in the bed tank.**
- 5. Turn on flushing with tank fill for 15 minutes to stabilize flushing before start of machining.**
- 6. Wire tension calibration to be done.**
- 7. General cleaning of the upper head, lower head guides etc.**

### **Additional Points for EDM machine during long shut down**

1. Clean the worktable free from dirt
2. Clean the work tank.
3. Check the machine for any moisture content and clean them.
4. Do not allow water to be on the table or the work tank, need to be clean and dry

### **Power ON the EDM Machine**

1. Do not power ON the machine same time with all other machine in the factory.
2. Wait for a while for about 10 to 15 minutes and then power ON the machine.
3. Top up the dielectric oil if insufficient in the bed tank.
4. Turn on flushing with tank fill for 15 minutes to stabilize the dielectric before start of machining.