L.G. Evans
Zeman Technologies

The Finest Machine Tools
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Did You Know?
Tool Load Monitoring: Do's and Don'ts

Tool Load Monitoring is a helpful tool that can stop a machine before catastrophic tool failures, avoid lost time, and allow for safer lights out manufacturing. It does this by:

- **Stopping a dull drill before it breaks and the tool melts down**
- **Stopping subsequent tools from being broken in a "chain reaction" of broken tools**
- **Detecting a roughing insert that needs changing, and that may cause a finishing tool to break or go oversized**

Tool Load Monitoring is the kind of option that pays for itself in the long run; but not everyone is familiar with some of the major do's and don'ts...

What is Tool Load Monitoring? Read More Here...

Tool Load Monitoring Do's:

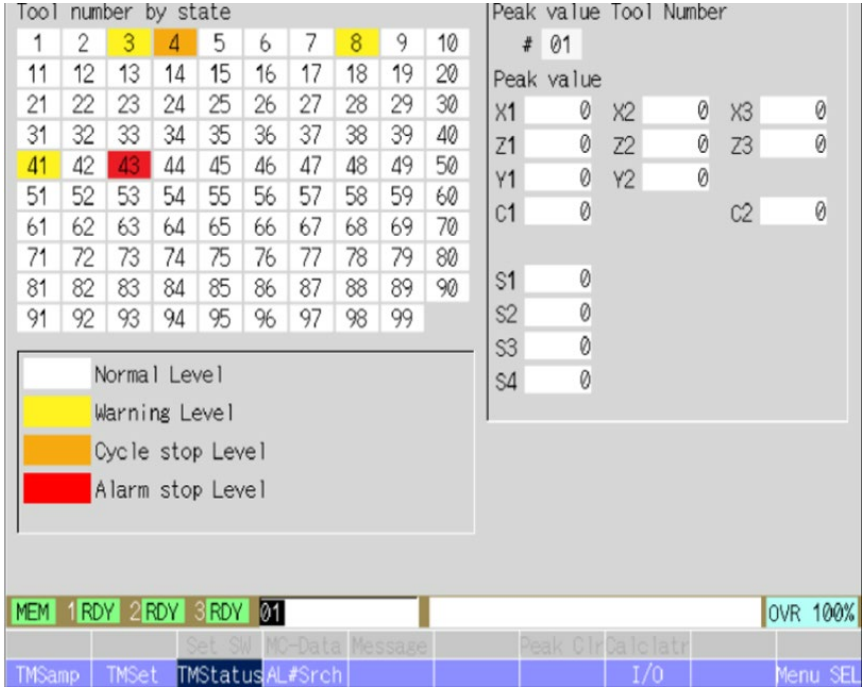
- Do use for tools that are roughing, drilling, or taking heavy loads
- Do use it to help protect yourself when running "lights out" by shutting down a machine before or when a breakage occurs
- Do use it to detect spindle loads and axis loads
- Do use it on the appropriate axis that is performing the cutting and is detectable

Tool Load Monitoring Don'ts:

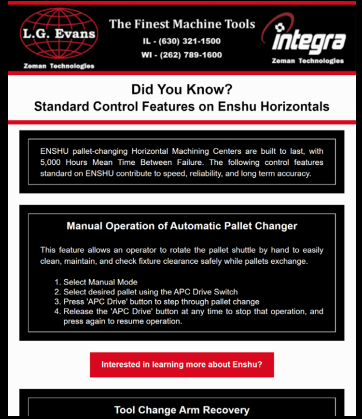
- Don't use it for extremely light loads, the Load Monitor may set a zero in the Base load value. Turn the axis off if it does
- Don't use it on a spindle in G96 mode, G96 causes high loads on the spindle as it accelerates and slows
- Don't use it for heavy interrupted cuts, steady loads are best
- Don't approach a part using a fast feed-rate, this can throw off detecting accuracy
- Don't use it for axes that are not moving or not being used

Tricky Workpiece? Let our Expert Engineers Take a Look...

Example of Monitoring on Mitsubishi Control



Miss our Last Tech Tips? Click Below!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Did You Know?
Standard Control Features on Enshu Horizontals
ENSHU pallet-changing Horizontal Machining Centers are built to last, with 5,000 Hours Mean Time Between Failure. The following control features standard on ENSHU contribute to speed, reliability, and long term accuracy.
Manual Operation of Automatic Pallet Changer
This feature allows an operator to rotate the pallet shuttle by hand to easily clean, maintain, and check fixture clearance safely while pallets exchange.
1. Select Manual Mode
2. Select desired pallet using the APC Drive Switch
3. Press 'APC Drive' button to step through pallet change
4. Release the 'APC Drive' button at any time to stop that operation, and press again to resume operation.
Interested in learning more about Enshu?
Tool Change Arm Recovery


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Did You Know?
Cincom Low Frequency Vibration-Cutting
What is LFV?
Chip Control: Servo-controlled axes oscillate in the axial direction, and machining is carried out while synchronizing this vibration with spindle rotation. The air cutting time created during machining leads to intermittent chip removal.
LFV-Produced Chips: Two 14.3 gram samples of 304 Stainless, which would you prefer?
View our Webinar on Low Frequency Vibration Here
NYLON