

SERVICE BULLETIN

NO.: 0 6 8 9 — 0 0 4

DATE: **JUNE 8. 1989**

* 0689-004 Rev1. 2/2/96

MACHINE MODEL: **Turning Centers**

NC TYPE: **T-32-2 ; T-32-3**

SERIAL No. RANGE: **N/A**

SOFTWARE VERSION: **A**

AUTHOR: **MAZATROL Dept.**

SUBJECT: **MEMORY CLEAR & RE-INITIALIZING T32-2 AND T32-3 CONTROLS**

REMARKS:

The T32-2,-3 controls may need to be reinitialized after control software upgrades, memory parity alarms, and so on. Please read the below paragraphs to gain a little insight of the control. Before doing the initialization backup **EVERYTHING** according to the BACKUP PROCEDURE A. The memory is divided into many areas, and those areas must be reformatted after the memory has been erased by the initialization

User Area Device 1	Systems area Device 0	procedure.
Directory 0 Part Program	Directory 0 System Macro	Memory Area 1 — .10 area for Part Programs. Memory Area 2 — .00 area for SYSTEM Macro Programs Memory Area 3 — .01 area for Machine Control Programs Memory Area 4 — for Tool Offset Memory Area 5 — for Tool Data 2 Memory Area 6 — .11 area for Part Programs Layout info.
Directory 1 Program Layout	Directory 1 Machine Control Program	In normal machine running environment, the control displays the .10 area of memory until it is changed.

Even if your control has a floppy disk drive, the machine and user parameters are stored on EEPROM. The word EEPROM stands for Electrical Erasable Programmable Read Only Memory. Try to think of the EEPROM as a floppy disk in which parameter information can be stored or retrieved and doesn't need battery backup. **ANYTIME** parameters are changed, they must be transferred to EEPROM to make the change permanent. See **PARAMETER PROCEDURE A**.

WARNING!!!

**CUTTING CONDITION INFORMATION AND TOOLING DATA IS NOT SAVED IN THE EEPROM. ONLY PARAMETERS ARE STORED THERE.
ALSO, WHEN TRANSFERRING PARAMETERS BACK AND FORTH TO THE EEPROM, TOOLING DATA MAY BE LOST!!! SO BACK THIS UP !!!**

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BACKUP PROCEDURE A

- 1)Memory Area 1(.10) Programs Download to Micro-Disk
- 2)Memory Area 4 Tool offsets Download to Micro-Disk
- 3)Memory Area 5 Tool Data 2 Download to Micro-Disk
- 4)Memory Area 6(.11) Program Layout Saved automatically with programs

Load the areas above along with Cutting Condition,Parameters, and Chuck Data onto one side of Floppy Disk (CMT1).

- 5)Memory Area 2(.00) System Macros. No need to backup, just formatted, stored on ROM EPROMS

- 6)Memory Area 3(.01) Machine Control Programs. Download to Micro-Disk
WARNING!!! Put on separate section of DISK than Programs, etc. For example; put on CMT2.

In order to change the Memory Area displayed to other areas
Do the following:

- 1) Press PROGRAM FILE PB.
- 2) Press ALL ERASE PB.
- 3) Key in .00 and then press INPUT PB.
You will see the System Macros directory.
- 4) Press ALL ERASE PB.
- 5) Key in .01 and then press INPUT PB.
You will see the Machine Control Programs directory.
There may not be any programs, depends upon machine.
Press the CMT I/O PB and download to a Micro-Disk.
- 6) Press ALL ERASE PB.
Key in .10 and then press INPUT PB.
NOW, you will be back to the normal part program directory. You must type the .10 , and not just .1 to change back to normal. Or, if you power down and back up, it returns to normal. Press the CMT I/O and save onto Micro-Disk.

MEMORY CLEAR & INITIALIZATION PROCEDURE

- 1) Do **BACKUP PROCEDURE A**. If the parameter's themselves are scrambled then see and do **PARAMETER PROCEDURE A**, then the **BACKUP PROCEDURE A**.
- 2) Push in E-STOP.
- 3) Power off control and on MC116 Board turn dip switch 1 & 3 on.
Power on control, screen will be white. Wait for two green L.E.D.'s on the MC116 to come on. Usually takes about a minute to happen
Power off control & return dip switches 1 & 3 to off.
- 4) Power control on, and you will see many alarms, and all parameter, programs, cutting condition will be gone.
- 5) Go to parameter page, push 3rd menu button from right, key in 1131, and press INPUT. An area above that key should be highlighted in purple.
- 6) Go to diagnostic page, then press DIAGNOSTIC MEMORY, and then press MEMORY EE PROM PB.
- 7) Bring cursor down to EE PROM.
Key in 2, and then INPUT, and then START PB.
When the 2 changes to 0, the Parameters are put back into the machine.
This happens very quickly, almost instantaneously.
- 8) Turn control off and back on.
- 9) Go to PROGRAM FILE, Press ALL ERASE, and type -9999 and press INPUT.
This formats the program directory page.
- 10) A) Press ALL ERASE and type .00 and press INPUT.
B) Next, press the left green menu select PB, and then press the POSITION page.
C) Then go back to PROGRAM FILE.
D) Press ALL ERASE, and type -9999 & press INPUT.
The PLC Macros will now reappear. This now completes the formatting of the .00 area of memory

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- 11) A) Press ALL ERASE and type .01 and press INPUT.
B) Type in -9999 and press INPUT PB. This formats the MACHINE MACRO'S directory.
C) Go to the CMT I/O MODE and load the programs that were saved in BACKUP PROCEDURE A, for Memory Area 2.
- 12) Press ALL ERASE, TYPE IN .10, AND INPUT PB. You should now be back to the normal program directory . At this time go to the TOOL DATA page.
A) Press TOOL DATA 2 PB.
B) Press ALL ERASE.
C) TYPE -9999 and press INPUT.
The tool data page is now formatted. If you cannot format this page make sure that machine parameters have been loaded. Otherwise, the control doesn't know how many tools the page is to be formatted to.
- 13) While in the TOOL DATA area, Press TOOL OFFSET.
Next, Press ALL ERASE, and type -9999 and press INPUT.
The tool offsets page is now formatted.
- 14) Lastly, go the CMT I/O and reload all of the programs,
* cutting conditions, parameters, and tooling data. If machine has *USERMACROS do the following:

*A) Go to CMT I/O and reload all USER MACRO programs into regular *program memory from USER Macro disk supplied by *MAZAK with the machine.

*B) Go to PROGRAM FILE page and press MACRO ENTRY. Type *in the first Macro program number at press INPUT PB. When the highlighted ***MACRO ENTRY turns off, Macro is entered. Check** *MACRO FILE page to confirm.

*C) Repeat step B above for the rest of the User Macro programs.
- 15) Power control off and back on.
- 16) You will see alarm 218 come up. To remove this alarm do the following:
A) Turn the keyswitch for internal/external chucking to opposite position and back.
B) Then step on the footswitch to unclamp and reclamp the chuck jaws. Power control off and back on.
C) The Alarm should be gone, and initialization is done

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PARAMETER PROCEDURE A

As was stated elsewhere, the machine and user parameters are stored on a EEPROM. However, the machine runs off of parameters which are stored in RAM and backed up by battery. So, if parameters are changed, the changes must be stored in EEPROM. An exception to this are the O29 to O80 optional parameters which are transferred from EEPROM to RAM at every power on of control.

TO GO FROM EEPROM TO RAM.

- 1) Go to PARAMETER page.
- 2) Push 3rd menu button from right.
- 3) Key in 1131 and area above button will highlight in purple.
- 4) Go to DIAGNOSTIC page.
- 5) Press DIAGNOSTIC MEMORY.
- 6) Press MEMORY EEPROM.
- 7) Move Curser down to EE PROM. ***** IMPORTANT ******
- 8) Key in 2, Press INPUT, and Then START.

The 2 will change to 0 when done. This happens very quickly, almost instantaneously.

TO SAVE PARAMETERS FROM RAM AND STORE INTO EEPROM AFTER MAKING CHANGES.

- 1) Go to PARAMETER page.
- 2) Push 3rd menu button from right.
- 3) Key in 1131 and area above button will highlight in purple.
- 4) Go to DIAGNOSTIC page.
- 5) Press DIAGNOSTIC MEMORY.
- 6) Press MEMORY EEPROM.
- 7) Move Curser down to EE PROM. ***** IMPORTANT ******
- 8) Key in 1, Press INPUT, and Then START.

The 1 will change to 0 when done. This happens very quickly, almost instantaneously.