NUM Corporation
Engineering Department

NUM 750/760	NUM INFORMATION US N° 119 1/4	Date: Jan. 19, 01

Procedures for BACKUP / RESTORE of a NUM 750/760 CNC, via NUMCOM software

Cable and Communication Setup

Communication cable configuration.

See US OEM Info #112, for detailed cable diagram. Connect the cable to the LEC/PER port (25 Pin, female, D-Shell) at the CNC.

Setup 760 for communication.

Select transfer baud rate on 760 by rotating the rotary switch labeled PERF on the process card.
Select receive baud rate on 760 by rotating the rotary switch labeled LECT on the process card.

CNC is now set up for communications.

Setup NUMCOM for communication.

1. Run NUMCOM. (*NOTE* If operating system is Windows 95/98 you may need to shut down into DOS for this to communicate properly.)
2. Select the Configuration menu.
3. Ensure proper active serial port on PC is selected. If it is, press <enter>.
4. Select proper receive baudrate based on the previously set output speed on CNC. Press <enter>.
5. Select proper send baudrate based on the previously set input speed on CNC. Press <enter>.
6. Ensure handshake signal says "yes". Press <enter>.
7. Press <enter> until you reach the main menu.

PC is now set up for communications.

Backup data from the 760 control

Backup the NC RAM area (Stored on the Memoire Card).

1. Press Unload (Punch) mode button.
2. Type 2 and <enter> for other program to tape.
3. Press cycle start button (green led will light up).
4. Type %% and <enter>
5. On PC, select receive ASCII file.
6. Program will scroll on PC screen if successful.

Backup the NC MACRO EEPROM area (Stored in EEProm, on the NC Process Daughter card.).

1. Press Unload (Punch) mode button.
2. Type 2 and <enter> for other program to tape.
3. Press cycle start button (green led will light up).
4. Type &%% and <enter>
5. On PC, select receive ASCII file.
6. Program will scroll on PC screen if successful.

Backup the NC Tool Offset area (Stored on the Memoire Card).

1. Press Unload (Punch) mode button.
2. On PC, select receive ASCII file.
3. Type 1 and <enter> for Tool offsets to tape.
4. Press cycle start button (green led will light up).
5. Tool offsets will scroll on PC screen, if successful.

Backup the machine parameters (Stored in EEProm, on the NC Process Daughter card.) .

1. Press the UTILITY KEY (book key)
2. Type 5 and <enter> for machine parameter
3. Type 3 and <enter> for unload to tape
4. On PC, select receive ASCII file.
5. Program will scroll on PC screen if successful.

Backup the PLC (PLC Logic stored on the Auto Card).

1. Press the UTILITY KEY (book key)
2. Type 6 and <enter> for UTIL 6 - PLC assembler programming
   - If Utility 6 is not present, you first need to load UTIL 0 and UTIL6 via the CHAR boot screen.
3. Type PERI and <enter> for PERIPHERAL ACCESS
4. TYPE PERF and <enter> for UNLOAD file to tape
5. ON PC, select receive Binary file.

Restore data to the 760 control

Restore the NC MACRO EEPROM area (Stored in EEProm, on the NC Process Daughter card.).

> ** Important - Before restoring the NC MACRO EEPROM area, be sure you have a complete backup of the NC RAM and Tool offset area. (See backup procedures above.)

1. Clear the NC RAM area, Press the CHAR button and then select option 2 – Clear RAM.
2. Press Load (Punch) mode button.
3. At, the CNC, Press Load (Punch) mode button.
4. Type 0 and <enter> for Program to from tape.
5. Press cycle start button (green led will light up).
6. On PC, select send ASCII file.
7. Select file to load at PC and press enter.
8. You will see first page of each program scroll on CNC screen if successful. You will also see the file size counter count down at the PC.
9. When the communication has stopped, check to see that all files have been loaded to the CNC.
10. You must now use UTILITY 3 at the CNC to transfer the data from the NC RAM to the EEProm Macro area. Select item “0 – Copy RAM(%%) EEPROM.” Copy %%.
11. Finally, clear the NC RAM Area, Press the CHAR button and then select option 2 – Clear RAM.

Restore the NC RAM area (Stored on the Memoire Card).

1. Clear the NC RAM area, Press the CHAR button and then select option 2 – Clear RAM.
2. Press Load (Punch) mode button.
3. Type 0 and <enter> for Program to from tape.
4. Press cycle start button (green led will light up).
5. On PC, select send ASCII file.
6. Select file to load at PC and press enter.
7. You will see first page of each program scroll on CNC screen if successful. You will also see the file size counter count down at the PC.
8. When the communication has stopped, check to see that all files have been loaded to the CNC.

Restore the NC Tool Offset area (Stored on the Memoire Card).

1. On PC, select send ASCII file. Select your tool offset file and press <enter>.
2. At the CNC, Press Load (Punch) mode button.
3. Type 1 and <enter> for Tool offsets from tape.
4. Press cycle start button (green led will light up).
5. Tool offsets will scroll on PC screen and the bottom of the CNC screen, if successful.

Restore the machine parameters (Stored in EEProm, on the NC Process Daughter card.) .

1. Press the UTILITY KEY (book key)
2. Type 5 and <enter> for machine parameter
3. Type 2 and <enter> for load from tape
4. On PC, select send ASCII file. Select your parameter file and press <enter>.
5. Parameters will scroll on CNC and PC screen if successful.

Restore the PLC (PLC Logic stored on the Auto Card).

1. Press the UTILITY KEY (book key)
2. Type 6 and <enter> for PLC assembler programming
3. Type PERI and <enter> for PERIPHERAL ACCESS
4. TYPE LECT and <enter> for LOAD binary file from tape
5. ON PC, select send Binary file. Select your PLC binary file and press <enter>.
6. You will also see the file size counter count down at the PC.

** NOTE <enter> is same as LF key.**