CNC Settings for HAAS (NGC and OGC)

Option 1 - HAAS NGC

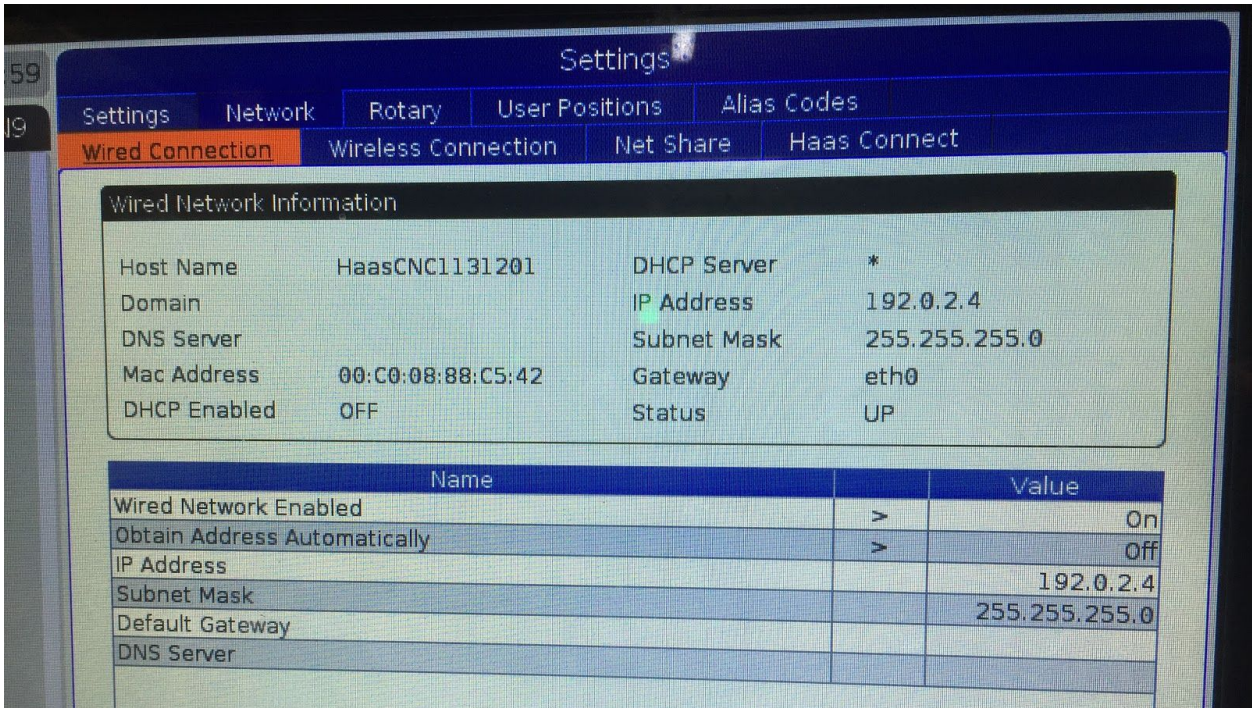
Default CNC Settings for HAAS NGC

Via the "Settings Button" in the --DISPLAY-- section of HAAS Controller

1) Settings >> Network>> Wired Connection
    a) Wired Network Enabled > On
    b) Obtain Address Automatically > Off
    c) IP Address = 192.0.2.4
    d) Subnet Mask = 255.255.255.0
2) Settings >> Power Settings
    a) Auto Power Off Timer = 0
3) Settings >> Miscellaneous
    a) Machine Data Collect = 9000

*Set values as shown below

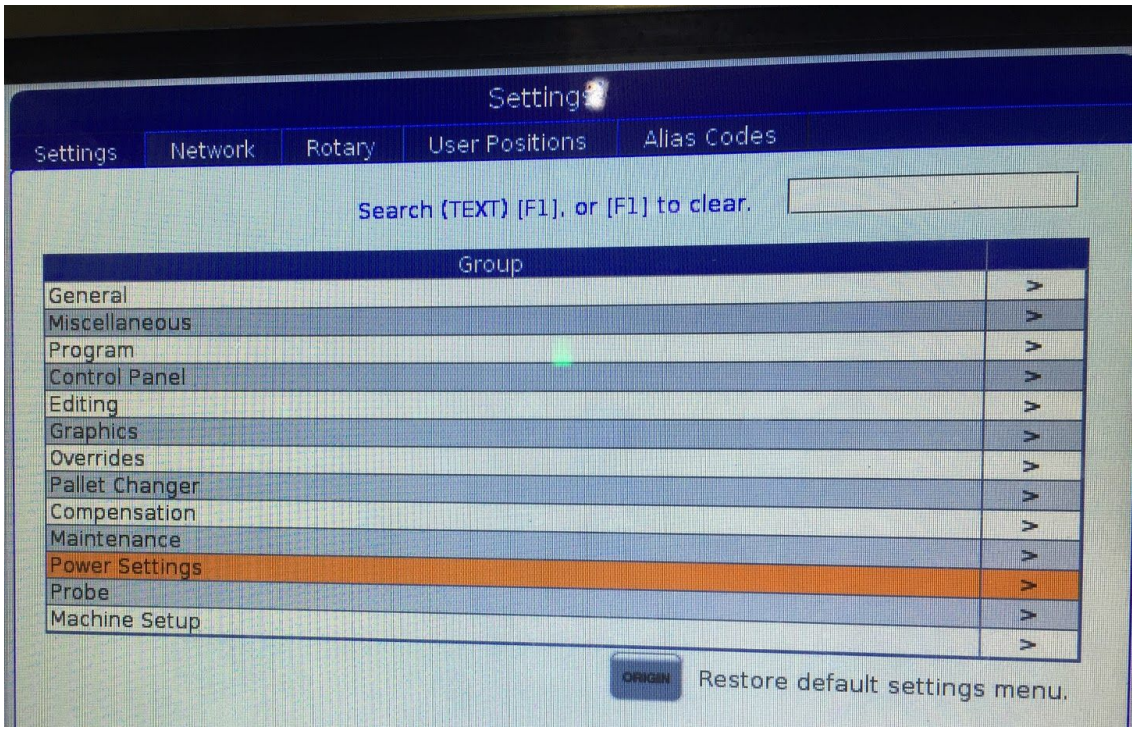
1) Settings >> Network>> Wired Connection
    a) Wired Network Enabled > On
    b) Obtain Address Automatically > Off
    c) IP Address = 192.0.2.4
    d) Subnet Mask = 255.255.255.0

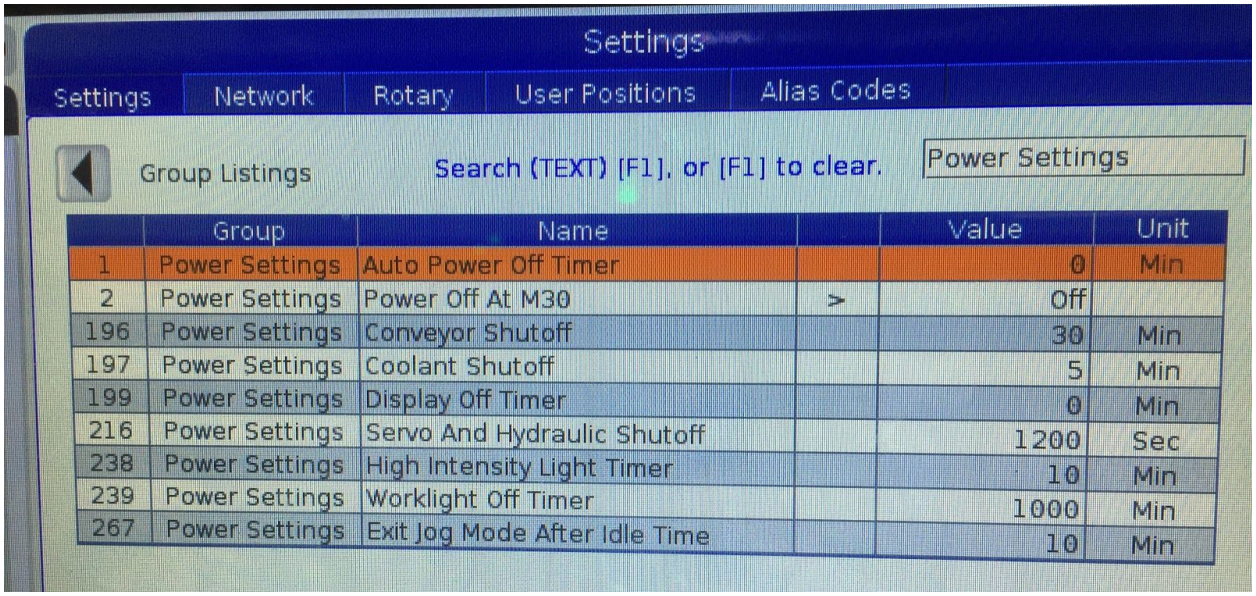


2) Settings >> Power Settings

b) Line 1 = Auto Power Off Timer = 7200

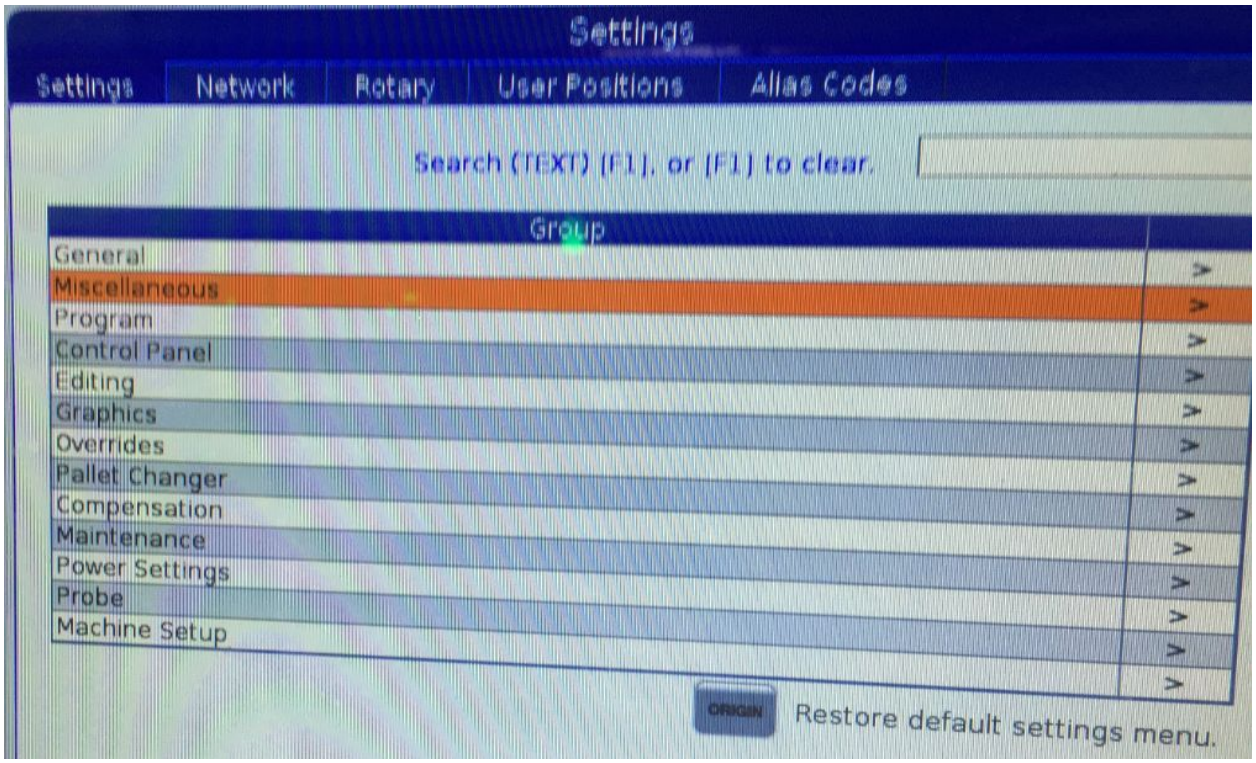
c) Line 216 = Servo And Hydraulic Shutoff should = 1200

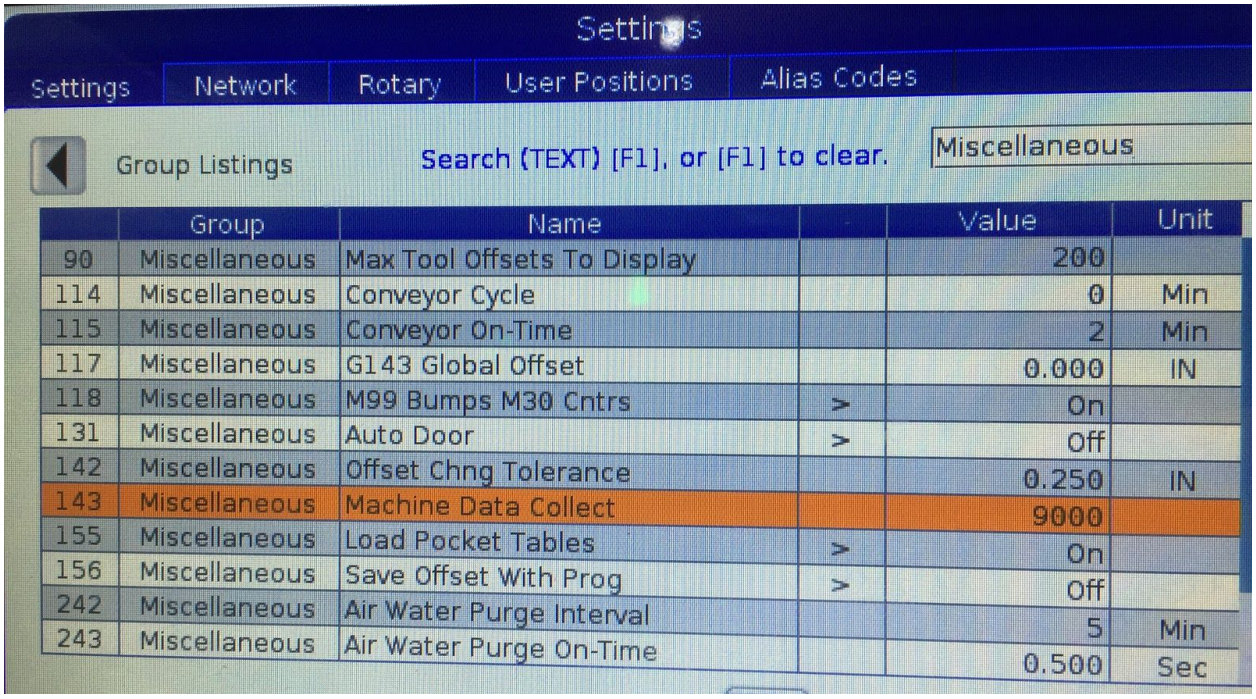




3) Settings >> Miscellaneous

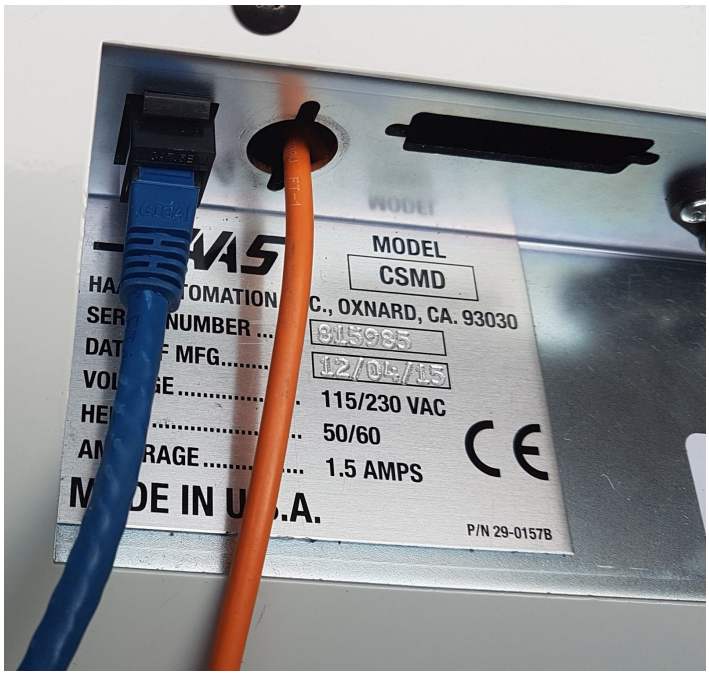
d) Machine Data Collect = 9000





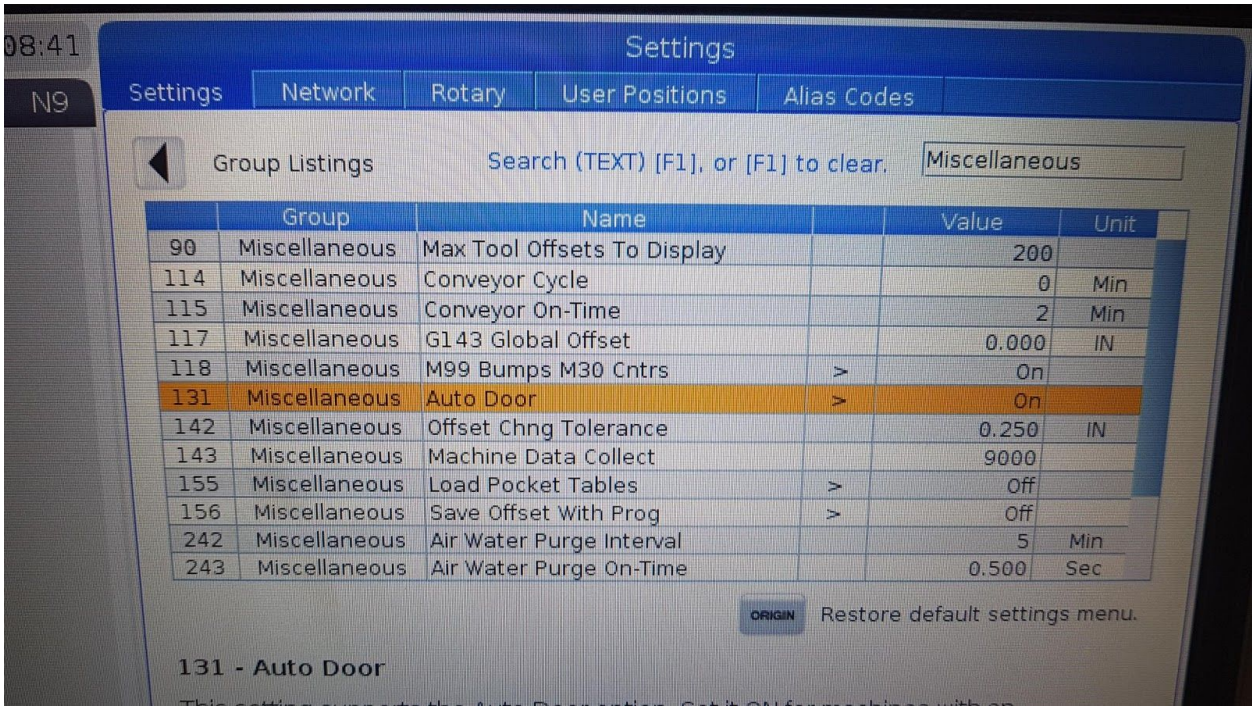
	Group	Name		Value	Unit
90	Miscellaneous	Max Tool Offsets To Display		200	
114	Miscellaneous	Conveyor Cycle		0	Min
115	Miscellaneous	Conveyor On-Time		2	Min
117	Miscellaneous	G143 Global Offset		0.000	IN
118	Miscellaneous	M99 Bumps M30 Cntrs	>	On	
131	Miscellaneous	Auto Door	>	Off	
142	Miscellaneous	Offset Chng Tolerance		0.250	IN
143	Miscellaneous	Machine Data Collect		9000	
155	Miscellaneous	Load Pocket Tables	>	On	
156	Miscellaneous	Save Offset With Prog	>	Off	
242	Miscellaneous	Air Water Purge Interval		5	Min
243	Miscellaneous	Air Water Purge On-Time		0.500	Sec

Network cable should connect to the back of the Haas CNC Controller and the switch on the IRC5 Robot Controller or the network if a local network IP connection is required.



Option 1a – HAAS NGC Factory Autodoor

Autodoor needs to be enabled in the CNC for the VBXC to be able to tell the CNC to open and close the door.



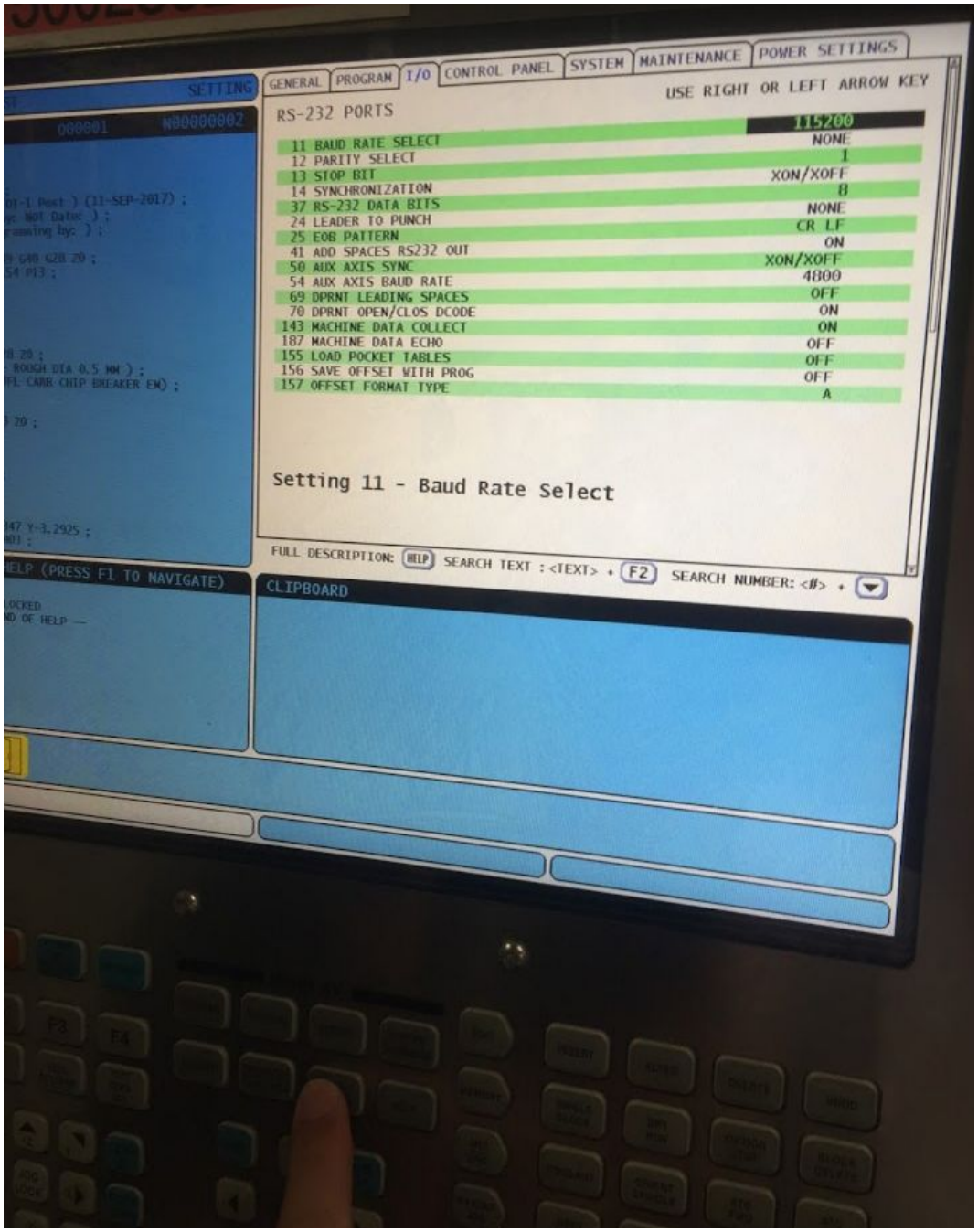
Option 2a – HAAS OGC (Dispatcher: 9000 Program)

-DISPLAY-- section of HAAS Controller

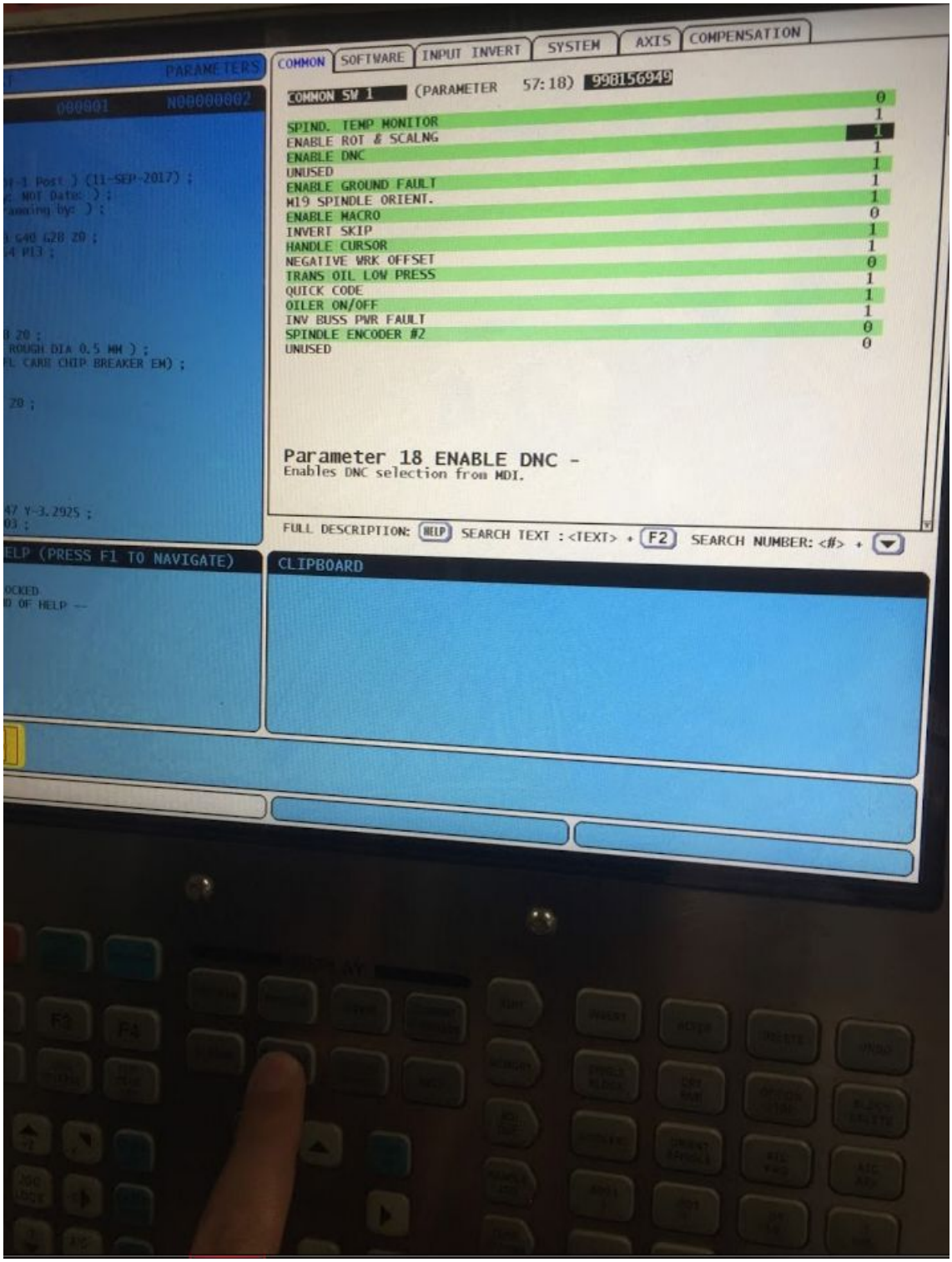
- **Parameter/Diagnostic Button**
- **Setting/Graphic Button**

1) Setting/Graphic >> I/O>> RS-232 Ports
    - Baud Rate Select - 115200
    - Parity Select - NONE
    - Stop Bit - 1
    - Synchronization - XON/XOFF
    - RS-232 Data Bits - 8
    - Leader to Punch - NONE
    - EOB Pattern - CR LF
    - Add Spaces RS232 Out - ON
    - AUX Axis Sync - XON/XOFF
    - AUX Axis Baud Rate - 4800
    - DPRNT Leading Space - OFF
    - DPRNT Open/Clos DCODE - ON
    - Machine Data Collect - ON
    - Machine Data Echo - OFF
    - Load Pocket Tables - OFF
    - Save Offset with Prog - OFF
    - Offset Format Type - A

2) Parameter/Diagnostic
    - Go to Parameter 57:18
    - Enable DNC - 1
3) **Setting/Graphic** >> I/O>> RS-232 Ports



4) **Parameter/Diagnostic**



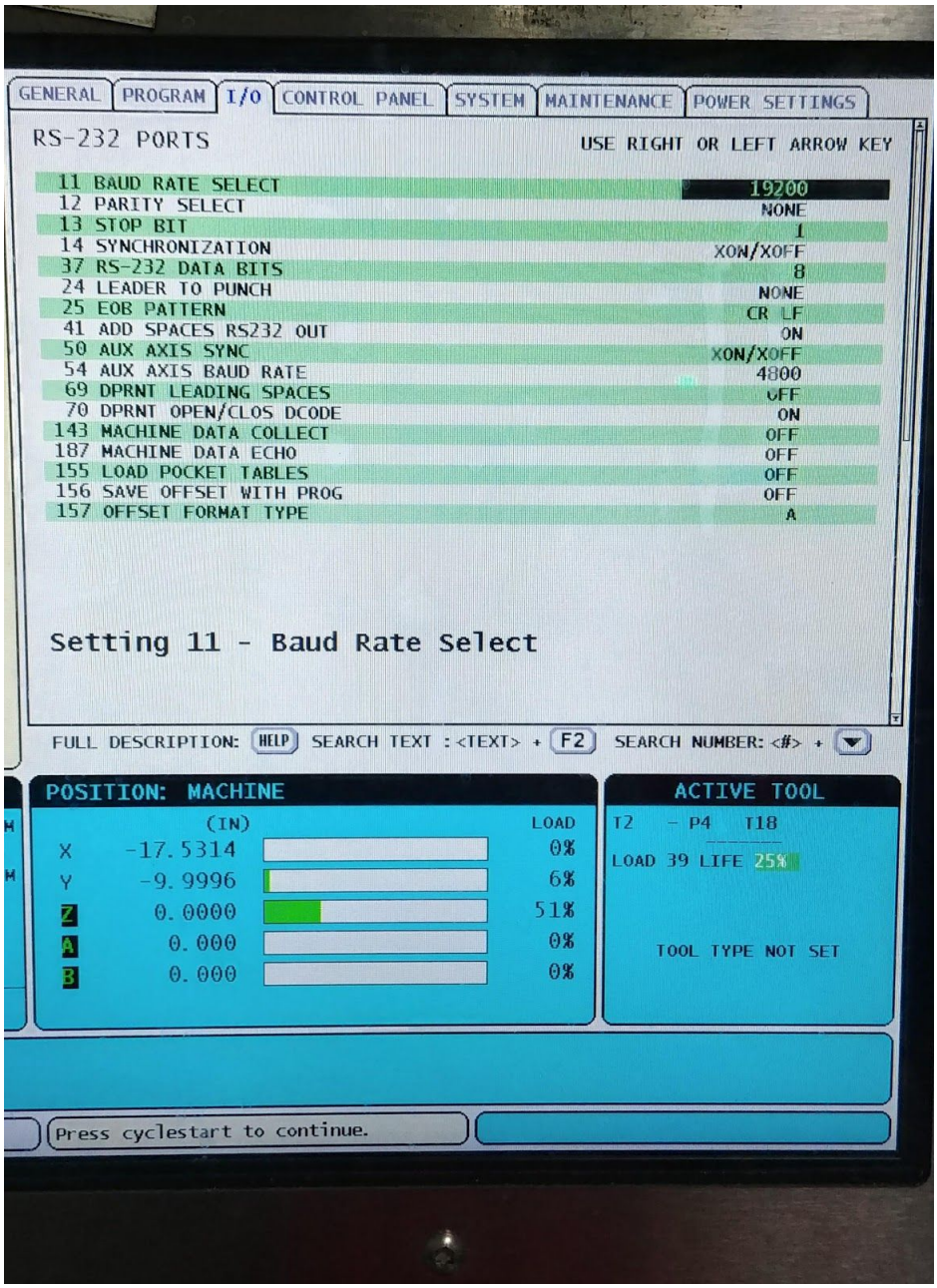
Option 2b – HAAS OGC (DNC Sync)

-DISPLAY-- section of HAAS Controller

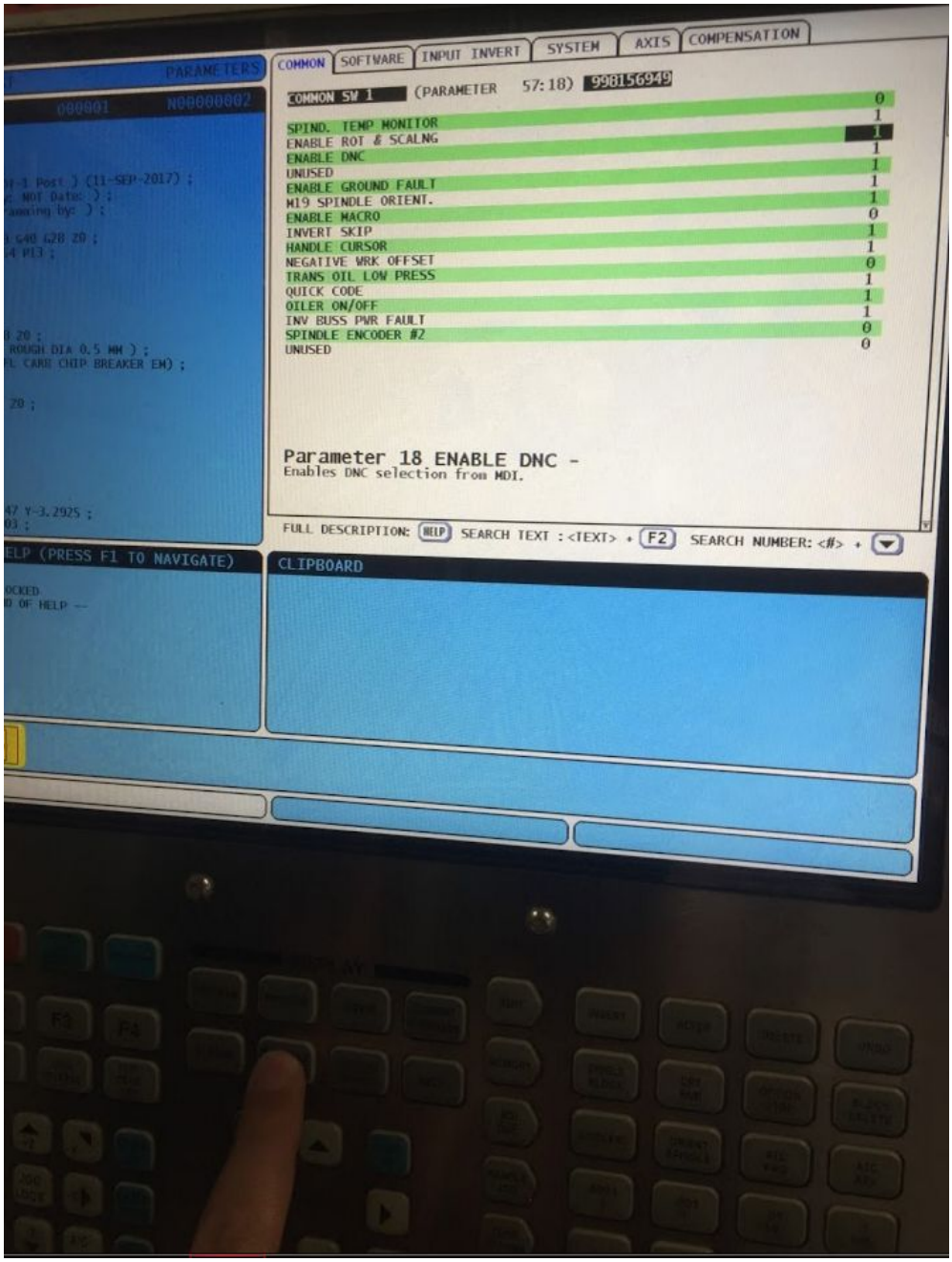
- **Parameter/Diagnostic Button**
- **Setting/Graphic Button**

1) Setting/Graphic >> I/O>> RS-232 Ports
    - Baud Rate Select - 19200
    - Parity Select - NONE
    - Stop Bit - 1
    - Synchronization - XON/XOFF
    - RS-232 Data Bits - 8
    - Leader to Punch - NONE
    - EOB Pattern - CR LF
    - Add Spaces RS232 Out - ON
    - AUX Axis Sync - XON/XOFF
    - AUX Axis Baud Rate - 4800
    - DPRNT Leading Space - OFF
    - DPRNT Open/Clos DCODE - ON
    - Machine Data Collect - ON
    - Machine Data Echo - OFF
    - Load Pocket Tables - OFF
    - Save Offset with Prog - OFF
    - Offset Format Type - A

2) Parameter/Diagnostic
   - Go to Parameter 57:18
   - Enable DNC - 1
3) **Setting/Graphic** >> I/O>> RS-232 Ports



4) **Parameter/Diagnostic**



Prove out CNC programs

Wash program for automatic chip removal, part & vise cleaning

Has the wash program been customized for this system and vise positions?

81004 – Wash Program, cleaning the vises

Run program and validate washing happens as expected

- please implement this program with CAUTION
- use coordinates and vise positioning for this system to thoroughly clean your vises to prevent loading and sensor issues
- chip fan is not required, but is shown in example as an option… can cause chips to fly around and cause more issues, every process and material acts a bit different, tweaking might be necessary for best performance

Table Positioning for VBX Load and Unload

Have the table load programs been customized for this system and vise positions?

Table load programs can be finalized during vise calibration but should be tested and customized in advance of setup.

81016 – Vise Table Load Position (this is a routine called by the VBX to position the table for vise load & unload)

- This program should be used for Table Load for vise 1, but ideally it's also used for vise 2 as the robot should be able to reach both vises with one table position, this will reduce cycle time.

81017 – Vise Table Load Position (alternate 1)

81018 – Vise Table Load Position (alternate 2)

Files for communicating with the VBX

9000 – **Dispatcher** for VBX communication subroutine
9001 – Op Result for VBX communication subroutine
9002 – Vise Open/Close command subroutine
9003 – Vise Pressure control subroutine
9004 – VBX routine for the VBX Dispatcher
9005 – VBX routine for the VBX Dispatcher
9006 – VBX routine for the VBX Dispatcher
9007 – Vise test routine to check G-Code Vise control *shows G-Code for vise open/close*

Run Test Program for Vise Pressure and Open/Close Control

No modifications should be made to the test programs.

9007 - Vise test for open & close & pressure

Run program and step through M00, validating at each M00 that results match expectation. Follow directions or validation in parentheses in test program.

- Verify each vise opens and closes, per instructions
- Verify vise pressure changes occur by checking VBXC screen and Gauge on Air Input Panel, connected to PLC regulator

Run Part Milling Programs

Run part/op specific milling programs

Part specific milling programs should be written and tested as if the robot was loading the part. Any required settling being done by hand needs to be tested out with code instead.

When implementing program to run as part of a VBX operation program should end with an M99, but M30 can be used during prove out.