

HAAS AUTOMATION APPLICATIONS CERTIFICATION TRAINING

Day 1

Introduction

Introduction to course.

Plant tour.

Control Familiarization

Identify the function and use of Settings and Parameters.

Explain how HSM works.

Identify Parameters and Settings that can affect HSM and part finish.

Identify Software features that aid programming.

Review uses of the Calculator.

Programming

Show how to set-up a Lap Top and the Control to up and down load programs via RS-232.

Show how to set-up the control to operate with a network.

Show how to set-up the control to run a program from a Floppy, RS-232, USB, HD or Enet, and Identify limitations.

Identify how to use a probe with VQC.

Labs

Calculator Exercise

Calculate Speeds, Feeds, and Horsepower using the Control

RS-232

Connect a Lap Top by RS-232 and download and upload a Program , Settings, and Offsets

Run a Program from a Lap Top using DNC

ENET/ HD

Connect a Lap Top to the Control by ENET and upload and download as with the RS-232

Run a Program from the Hard Drive

Save Settings to a Flash Drive

VQC PROBE

Set Tool and Work Offsets using the Probe and VQC

Day 2

Programming (cont)

Identify how a CAD-CAM program can be used with a Haas Machine to create complex parts.

Explain how CAM settings (system tolerances, cut tolerances, filter settings) can affect part quality.

Identify what changes need to be made to customize a post processor for a Haas Machine.

Identify ways of verifying a program “Off Line” using verification software or Graphics mode.

Identify how to trouble shoot a program using “Metacut” software.

Identify the purpose and use of the “Twin Splash Demo”.

Troubleshooting

Identify how to troubleshoot a problem related to programming.

Identify problems with part finish or throughput that are caused by incorrect tooling, speeds or feeds.

Go over Applications “Troubleshooting Finish Issues” document. Go over Flowchart.

Identify parts problems that could be related to improper work holding.

Identify problems with part finish that could be related to machine problems.

Use the Haas Parameter Program to help troubleshoot problems related to machine operation/software.

Use the Haas Parameter Program to identify types of problems/limitations with various software levels and when they were corrected.

Use the Haas Parameter Program to identify types of problems/limitations with various software versions and when they were corrected.

Labs

Troubleshoot finish problem (Mill). Make changes to code. Cut part.

Day 3

Tooling

Cover formulas for determining required torque (on Mill and Lathe) for a job.

Cover formulas for determining required Torque for Tapping and Drilling.

Cover formulas for determining how much axis Thrust is required.

Review use of Calculator to determine required horsepower for a job and identify how tools can affect required horsepower.

Lathes

Identify the problems related to improper tooling.

Show how to set up machine and test the first part.

Identify ways to prevent threading problems.

Identify ways to overcome tool vibration.

Cover Live Tooling programming codes.

Labs

Torque

Calculate the required torque/thrust for sample jobs.

Determine which machine can be used for a job based on torque and horsepower requirements.

Lathe

Troubleshoot a threading/chatter problem.

Correct problem and part.

Write a program for live tooling.

Test program.

Day 4

Labs continued from day 3

5-Axis Machining

Identify the axes on different 5-axis machines

Explain how 5-axis control differs from 3-axis .

Identify unique G and M codes

Calculate feeds for 5-axis machining

Identify Parameters and Settings that effect 5-axis Motion

Identify how to program 5-axis tool paths using a CAD program

Identify potential posting problems

Identify programming problems to beware of

Identify how to set Offsets on Trunnions and VR machines

Identify how to easily compensate for varying tool lengths

Day 5

Administration

Identify ways to help sell the right machine and options for the customer's needs.

Identify where to find helpful information on the Web site.

Identify how to download and use the Parameter Program.

Identify the minimum information required when calling in a problem.

Identify procedures and information required when reporting a software bug.

Labs

Finish any not previously completed.

Final Exam