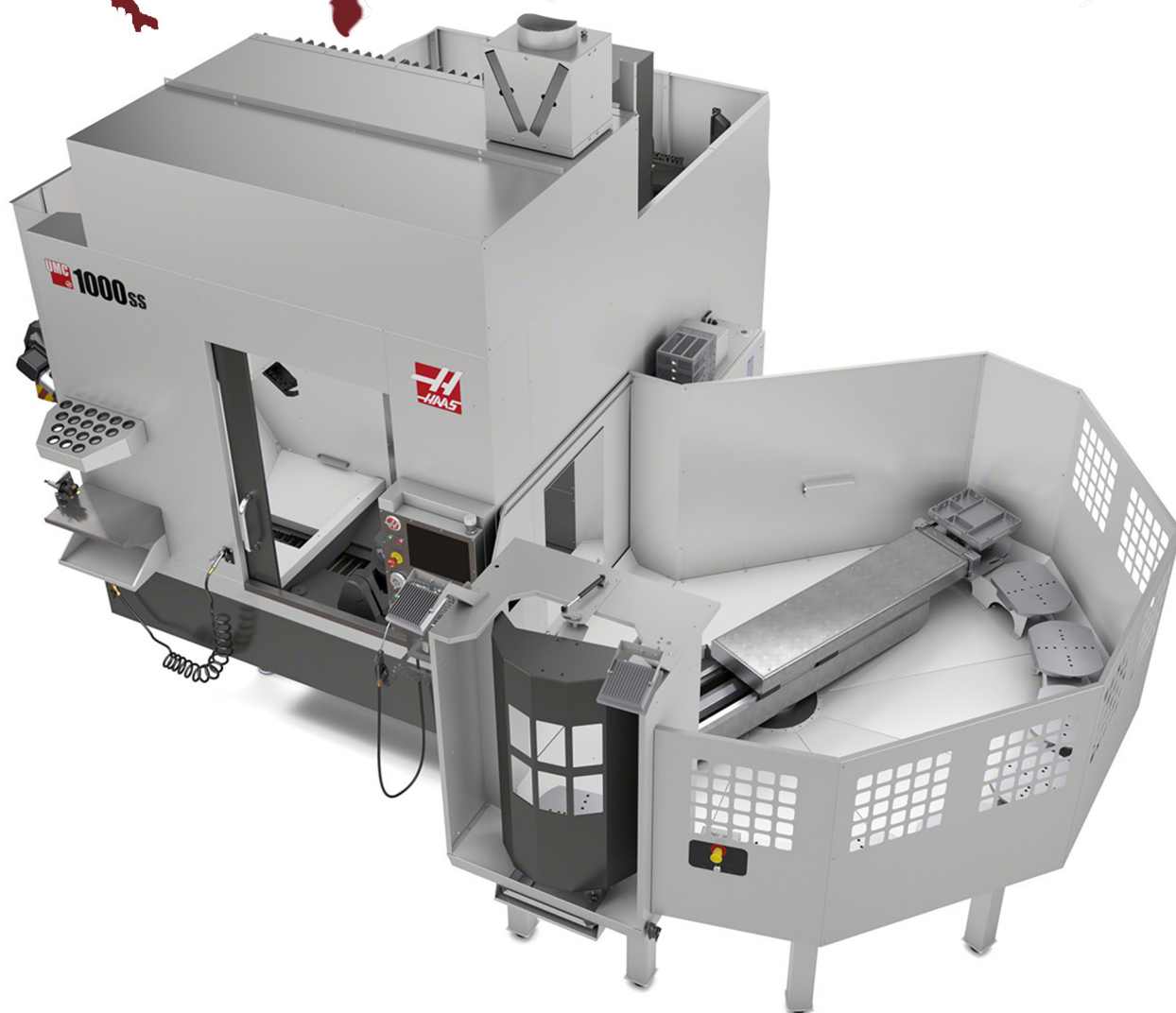
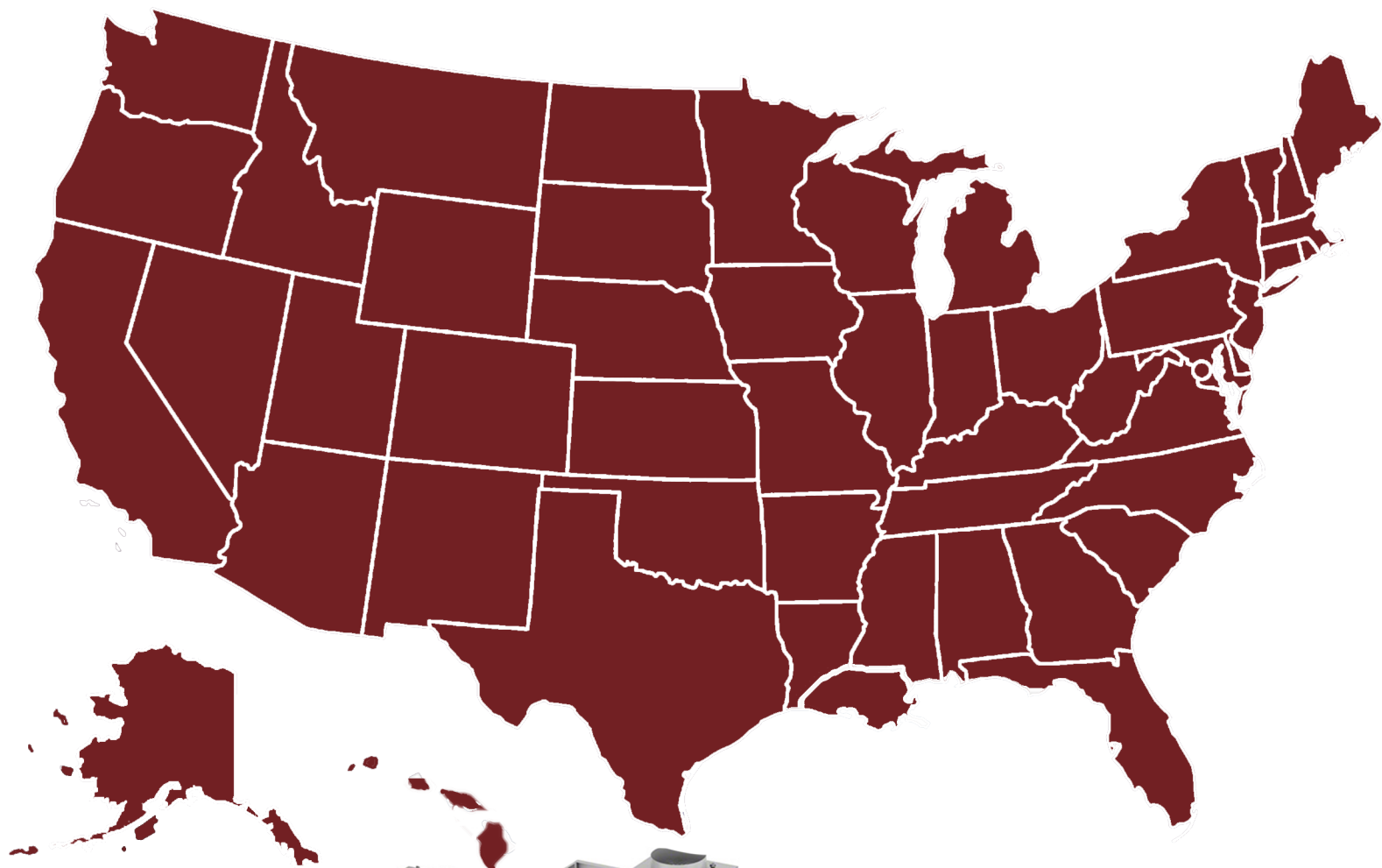


Phillips®
Federal Division

..... **HAAS TRAINING**





We offer a variety of interactive and hands-on operator training courses. Our instructor-based programs are designed to provide an **extensive learning experience** without disruption to the facility. These programs can be customized to meet the needs of the participating customer and cover subjects including CNC controls, machine setup, work holding, tool section, programming, bar feeding, and probing. All of these programs are tailored to enhance the proper setup, programming, operation, and proper maintenance of these machines. Certifications can be earned upon request.

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CONTROLS

Haas Controller Training Programs

HaasCNC201: We present an overview of proper techniques used while performing **a milling set up**. It consists of getting to know the machine while taking control of the application and process. The focus will be on learning how to more efficiently set up the machining center. It provides people with hands-on actions and demonstrations. This is a three day session, 8 hours/day for 1-5 people.

HaasCNC202: We present an overview of proper techniques used while performing a **turning set up**. It consists of getting to know the machine while taking control of the application and process. The focus will be on learning how to more efficiently set up the turning center. It provides people with hands-on actions and demonstrations. This is a three day session, 8 hours/day for 1-5 people.

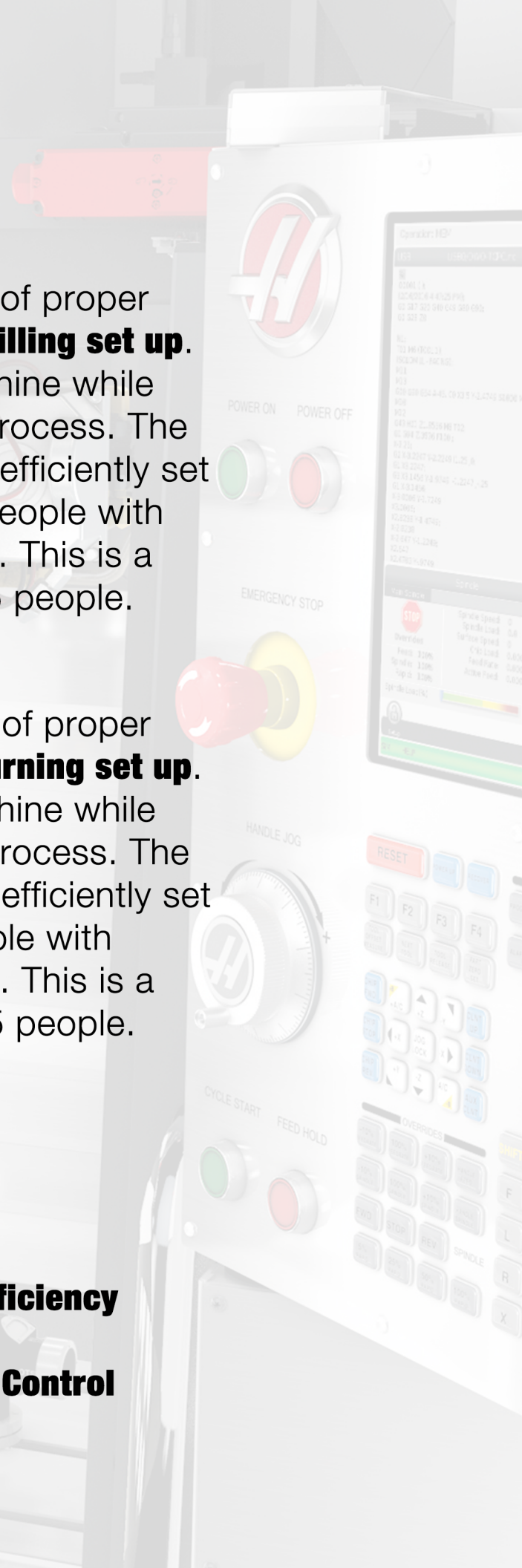
Control Navigation

Safe Setup and Operation

Tips for Increasing Productivity and Efficiency

Specific Features of Your Machine and Control

Customizable Training Options



CODES

Haas G & M Code Training Programs

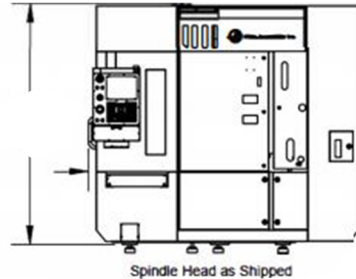
HaasCNC301: We present an overview of CNC machine codes and programmable functions for **machining** centers. It consists of understanding how to maximize your productivity while minimizing your programming times. The focus of the session will be on learning how to effectively program the machining center. It provides people with a combination of theory and hands-on with demonstrations. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC302: We present an overview of CNC machine codes and programmable functions for **turning** centers. It consists of understanding how to maximize your productivity while minimizing your programming times. The focus of the session will be on learning how to effectively program the turning center. It provides people with a combination of theory and hands-on with demonstrations. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC403: We present an overview of CNC machine codes and programmable functions for **turning centers that utilize live tooling**. It consists of understanding how to program and operate the live tooling. It provides people with a combination of theory and hands-on with demonstrations. This is a two day session, 8 hours/day for 1-5 people.

MILLS

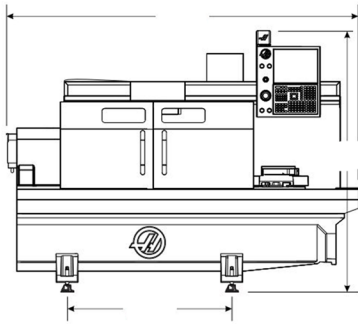
Haas IPS, VPS, and VQC Training Programs



HaasCNC303 VPS: We present an overview of the **Haas VPS, Haas IPS, and Haas VQC** functions for turning centers. It consists of understanding how to maximize your productivity while minimizing your programming times through the development of speeds, feeds and dimensions. The focus of the session will be on learning how to effectively program the turning center using the correct system. Systems will differ from the age and model of the machine. This training provides a combination of theory and hands-on with demonstrations. This is an all day session for 8 hours a day for 1-5 people.

LATHES

Haas IPS, VPS, and VQC Training Programs



HaasCNC304-VPS, IPS, and VQC: We present an overview of the **Haas VPS, Haas IPS, and Haas VQC** functions for turning centers. It consists of understanding how to maximize your productivity while minimizing your programming times through the development of speeds, feeds and dimensions. The focus of the session will be on learning how to effectively program the turning center using the correct system. Systems will differ from the age and model of the machine. This training provides a combination of theory and hands-on with demonstrations. This is an all day session for 8 hours a day for 1-5 people.

G CODES

General G Code Programming Programs

GCNC301 and GCNC302: We present an **overview of CNC machine codes and programmable functions for turning centers.** It consists of understanding how to maximize your productivity while minimizing your programming times. The focus of the session will be on learning how to effectively program the turning center. It provides people with a combination of theory and hands-on with demonstrations. This is a four day session, 8 hours/day for 1-5 people.



Haas spent years of development into designing the best control hardware and software in the industry. The new generation VMCs pack even more innovation into what was already the industry's greatest overall CNC control.

TOUCH PROBE

Haas Renishaw Touch Probe and Tool Settings

HaasCNC401: We present an **overview of proper techniques used while performing calibration, part set up, and part orientation with a touch trigger probe.**

It consists of getting to know the probes while taking control of the application and process. It also consists of proper techniques used along with the tool setting probe. The focus of the session is on learning how to set up and program the probes to set work offsets in all axis, and set tool offsets. It provides people with hands-on actions and demonstrations. This is a one day session, 8 hours/day for 1-5 people.



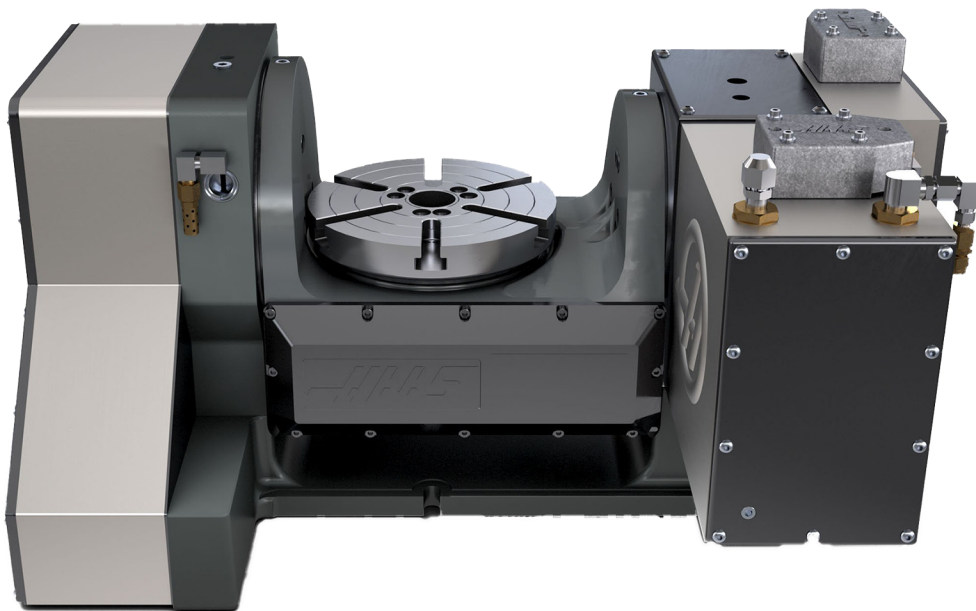
HaasCNC402: Haas work probe for lathe operations. We present an **overview of proper use and techniques of lathe work probing.** It consists of understanding the basics in probing technology so that operators can make better use of the probing system in application and process probing on CNC turning center operations. The focus of the session will be on learning how to use the work probe. It provides people with hands-on actions and demonstrations. This is a two day session, 8 hours/day for 1-5 people.

AXIS

Haas 4th and 5th Axis Training Programs

HaasCNC404: Haas 4th Axis Rotary: We present an overview of proper techniques used while performing **4th axis machining**. It consists of overcoming issues with an additional axis as well as understanding options in set-up and programming. It provides people with hands-on actions and demonstrations. This is a one day session, 8 hours/day for 1-5 people.

HaasCNC405: Haas 5th Axis Trunnion: We present an overview of the **Haas 5th Axis Trunnion** and its integration into the Haas control. The focus of the session will be on the function of the trunnion and how it operates within the Haas control environment. It provides operators with hands-on and demonstrations. This is a one day session, 8 hours/day for 1-5 people.



BARFEEDING

Haas Barfeeding Training Programs

HaasCNC406: We present an **overview of proper techniques used while performing bar feeding while turning.** It consists of recommendations of use for accurate positioning as well as understanding options in set-up and programming. It provides people with hands-on actions and demonstrations. This is a one day session, 8 hours/day for 1-5 people.

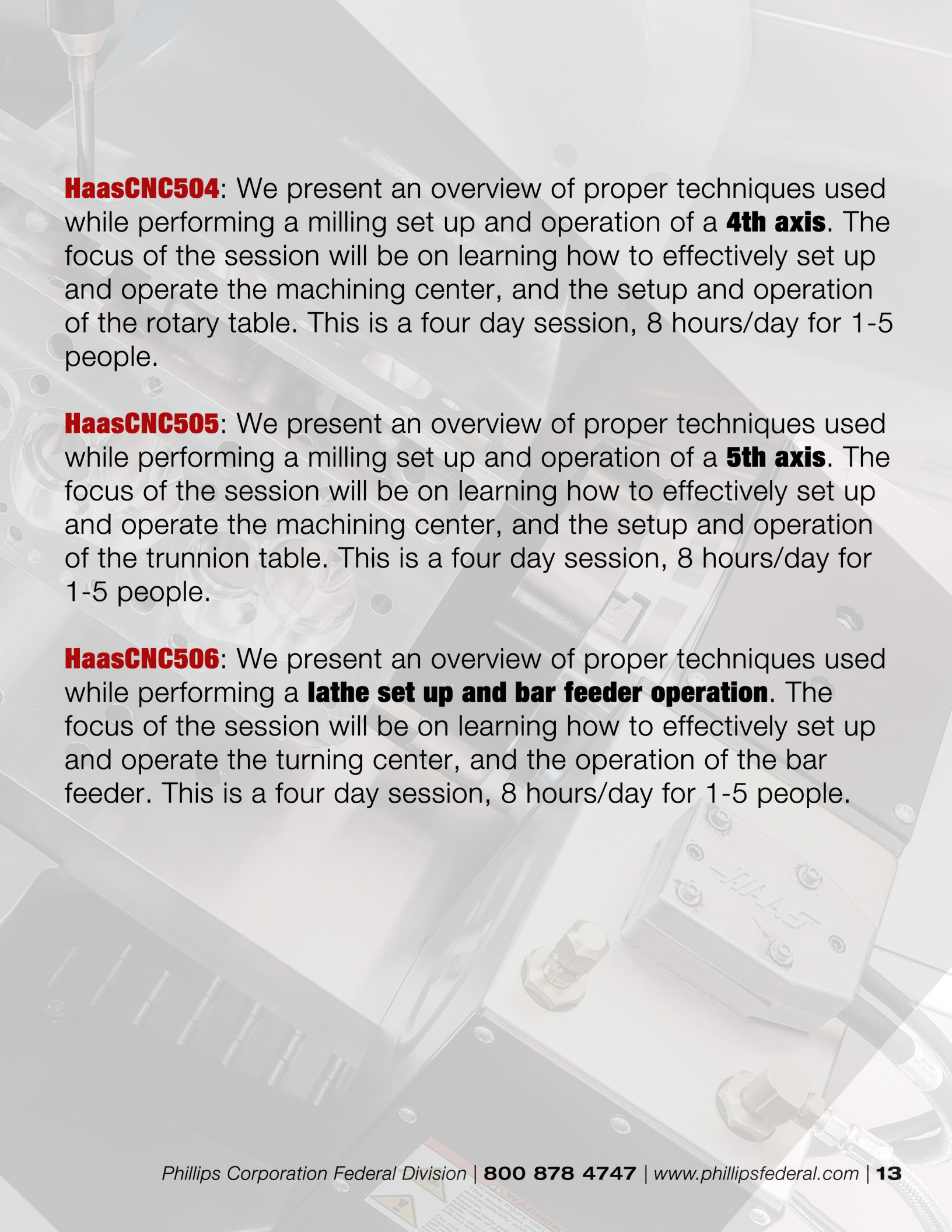


Combinations

Haas Combination Training Programs



HaasCNC501 and HaasCNC502: We present an overview of proper techniques used while performing a milling set up and part/tool probing. The focus of the session will be on learning how to effectively set up and operate the machining center, operation of the tool setting probe, and finally the operation of the work offset touch probe. This is a four day session, 8 hours/day for 1-5 people.



HaasCNC504: We present an overview of proper techniques used while performing a milling set up and operation of a **4th axis**. The focus of the session will be on learning how to effectively set up and operate the machining center, and the setup and operation of the rotary table. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC505: We present an overview of proper techniques used while performing a milling set up and operation of a **5th axis**. The focus of the session will be on learning how to effectively set up and operate the machining center, and the setup and operation of the trunnion table. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC506: We present an overview of proper techniques used while performing a **lathe set up and bar feeder operation**. The focus of the session will be on learning how to effectively set up and operate the turning center, and the operation of the bar feeder. This is a four day session, 8 hours/day for 1-5 people.

ADVANCED

Haas Advanced Training Programs

HaasCNC600-Macros: We present an **overview of Macro programming**. The focus is on time saving programming approaches for operations such as probing, families of parts programming, casting/forging material utilization, etc. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. This is a three day session, 8 hours/day for 1-5 people.

HaasCNC602-Advanced Programming: We present an **overview of advanced G code programming**. The focus is on learning approaches such as multiple fixture shift, sub-programs, canned cycles, mirror imaging, scaling, etc. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. It provides people with hands-on actions and demonstrations. This is a three day session, 8 hours/day for 1-5 people.

HaasCNC603Y-Live Tooling: We present a **more comprehensive approach than our 403 offering as to the use of CNC machine codes and programmable functions for turning centers that utilize live tooling**. It consists of understanding how to maximize your productivity while minimizing your programming times. The focus of the session will be on learning how to effectively program and operate the live tooling (with Y axis if applicable). The session provides people with a combination of theory and hands-on with demonstrations. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC604-4th and/or 5th axis: We present an **overview of the 5th Axis Trunnion** and its integration into the control. The focus of the session will be on the function of the trunnion and how it operates within the control environment. 4th & 5th axis programming typically requires a CAM system. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. This is a three day session, 8 hours/day for 1-5 people.

HaasCNC605-Probing: We present a **more in-depth session than our 401** productivity improvement in the proper techniques used while performing calibration, part set up, and part orientation with a touch trigger probe in a milling environment. It consists of getting to know the probes while taking control of the application and process. It also consists of proper techniques used along with the tool setting probe. The focus of the session is on learning how to efficiently set up and program the probes to set work offsets in all axis, and set tool offsets. This is a three day session, 8 hours/day for 1-5 people.

HaasCNC606-Lathe Probing: We present a more in-depth session than our 402 productivity improvement in the proper techniques used while performing calibration, part set up, and part orientation with a touch trigger probe in a turning environment. It consists of **getting to know the probes while taking control of the application and process.** It also consists of proper techniques used along with the tool setting probe. The focus of the session is on learning how to efficiently set up and program the probes to set work offsets in all axis, and set tool offsets.

UMC-750

Haas UMC-750 5th Axis Training Programs



HaasCNC UMC: We present an overview of **proper techniques used to operate the Haas UMC**. It consists of getting to know the machine while taking control of the application and process. The focus of the session will be on learning how to effectively operate the machining center. It provides people with hands-on actions and demonstrations. This is a four day session, 8 hours/day for 1-5 people.

HaasCNC UMC-P: We present an overview of CNC machine codes and programmable functions for the UMC machining centers. It consists of understanding how to maximize your productivity while minimizing your programming times. The focus of the session will be on learning how to **effectively program the UMC machining center in a 3 plus 2 axis mode** (4th & 5th axis positioning only). It provides people with a combination of theory and hands-on with demonstrations. This is a four day session, 8 hours/day for 1-5 people.



Advantages of Dynamic Work Offsets and Tool Center Point Control

Implimentation of Wireless Intuitive Probing System

How to Find Center Point Rotation

5-Axis and High Speed Machining Strategies

Intergration with CAM Software

HaasCNC UMC-SU: We present an overview of proper techniques used while performing a **milling set up and operation of the 4th & 5th axis on the UMC.** The focus of the session will be on learning how to effectively set up the machining center as well as the setup and operation of the trunnion table. For greatest efficiency, a CAM program with 5 axis capability is highly recommended (5 axis simultaneously). It provides people with hands-on actions and demonstrations. This is a four day session, 8 hours/day for 1-5 people.

MAINTENANCE

Preventative Maintenance Training Programs

MainTrain: We present an **overview of proper preventive electrical and mechanical maintenance.** It consists of getting to know the machine's needs to maintain constant and steady function. The focus of the session will be on learning how to effectively understand and comply with maintenance protocol. It provides people with hands-on and demonstrations. This is a two day session, 8 hours/day for 1-5 people.

MainTrain SL & ST Lathe: We present an **overview of proper preventive Electrical/Electronics (CNC), mechanical, and hydraulic maintenance.** It consists of getting to know the machine's needs to maintain constant and steady function. The focus of the session will be on learning how to effectively understand and comply with maintenance protocol. It provides people with hands-on and demonstrations. This is a two day session, 8 hours/day for 1-5 people.

MainTrain TM & TL: We present an **overview of proper preventive electrical and mechanical maintenance.** It consists of getting to know the machine's needs to maintain constant and steady function. The focus of the session will be on learning how to effectively understand and comply with maintenance protocol. It provides people with hands-on and demonstrations. This is a 1 day session for either a Haas Toolroom mill or Toolroom lathe, 8 hours/day for 1-5 people.

Machining

Haas Advanced Machining Programs

GCNC607-High Speed Machining: We present an **overview of High Speed Machining**. The focus is on learning not only programming techniques, but also tooling, workholding, cutting fluids and atmospheric handling. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. This is a three day session, 8 hours/day for 1-5 people.

GCNC608-Micro Machining: We present an **overview of Micro Machining**. The focus is on learning not only programming techniques, but also tooling, workholding, cutting fluids and atmospheric handling. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. The session provides people with hands-on and demonstrations. This is a three day session, 8 hours/day for 1-5 people.

GCNC609-Tooling Choices: There are many choices in tooling. We present an **overview of the various types of tools and their uses**. The knowledge transfer revolves around tooling choice optimization under varying cutting circumstances. Proper procedures and formats will be discussed in a mixture of theory as well as shop demonstrations. It provides people with hands-on actions and demonstrations. This is a three day session, 8 hours/day for 1-5 people.

ENGINEERING

Applications Engineering Assistance Programs



We offer two general types of Applications Engineering Assistance; Process Evaluation and our APP products. Typically, Process Evaluation is performed prior to the APP offering. The Process Evaluation sets the guidelines of improvements that the customer can choose to do themselves or hire an outside source. Each product can be stand-alone. The Process Evaluation suggests the necessary improvements, while the APP will support your desire to have an outside source complete the tasks.



Process Evaluation: In many cases, organizations are extremely busy, tending to everyday issues relative to production, inspection and shipping. While the desire to improve radiates throughout the organization, time slips away on a daily basis. Process improvements or even evaluations receive a lower priority due to time constraints. Phillips Corporation realizes this and offers a solution. **Our Applications Engineers can visit your site and with minimal guidance generate some potential enhancement/ improvement ideas to your current processes.** These ideas will be detailed in a report that can be easily followed by your shop and management personnel. Quoted upon request.

APP1, APP3 & APP4: We offer our Application Engineer's time in blocks of one (1), three (3) and four (4) days; and longer if needed to best fit your requirements. **Our personnel will come to your facility to develop programs, procedures, processes, inspection routines or share ideas and knowledge with your company personnel in specific areas of expertise.** Each day will comprise of eight (8) hours.

Haas engineers review and improve all aspects of the machines including motion control, coolant containment, chip evacuation, ergonomics, and serviceability to create the highest quality machine tools available.

CONTACT AND TERMS

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Address: 7390 Coca Cola Dr. Suite 200
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