

COBRA ELITE PREP GUIDE

Getting Ready for Your CAMaster



CAMaster

High-Performance CNC Machinery

CAMaster COBRA ELITE

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Looking Ahead . . . Prepping for Your Machine

Thank you again for choosing CAMaster. We value your trust in our company and look forward to building and delivering your Cobra Elite CNC Router. In the interim, we hope you'll find the following information helpful as you prepare for the arrival of your machine.

Shipping and Receiving

You will receive an email from CAMaster when your machine is completed. The email will contain instructions for processing your remaining balance and ask you to provide/confirm ship-to location. Once the balance and ship-to information requirements are satisfied, we will schedule a freight carrier for pick-up. Upon pick-up, we will email you a bill of lading with the carrier name and tracking info. **Please note that the freight carrier is not responsible for unloading your machine.** As such, a forklift with fork extensions is required for unloading.

CAMaster recommends a forklift with a minimum 8,000 lbs. lifting capacity for 5x8 and larger machines and 5,000 lbs. lifting capacity for a 5x5 machine.

Basic Shop Preparation

Machine Space and Location

- Please see **Page 7** for dimensions and weights for your machine.
- If you haven't already done so, please consider doorway/entry clearances between your dock, shop and installation location.
- When determining final machine placement, CAMaster recommends a minimum of 36" clearance around the machine perimeter. Also, please consider space for material loading/unloading along with material staging.
- Other items to consider when selecting your installation location and layout include:
 - Electrical connections for machine as well as options/accessories/supporting equipment
 - Dust/chip collector location and related ductwork
 - Vacuum pump location (if applicable)
 - Compressor location (if applicable)
 - Misc. cabinetry/storage for tooling, wrenches, clamping/work holding tools/fixtures, etc. (if applicable)

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Electrical Requirements

- CNC System: Please see **Page 8**
- Accessories/Options (if) purchased from CAMaster
 - Vacuum pump: Please see **Page 9**
 - Oneida dust/chip collection: Please see **Page 9**
- Other Accessories
 - Air compressor (required for air-assist, ATC, pop-up pins, blast gates)
 - Dust/chip collection (if applicable)

Dust/Chip Collection

- Dust Boot Connections – The Cobra Elite comes standard with a 6" inlet
- Oneida Dust Collection Systems – Please See **Page 9** for links to manuals

Compressor Requirements

- Machines equipped with Counter Balance (air assist) and/or Pop-up Pins **require 90 PSI static pressure**. Connection is made by using ¼" male ARO type quick-connect hose coupler.
- Machines equipped with ATC and Counter Balance (air assist) and/or Pop-up Pins **require min. 100 PSI and 10 CFM**. Single connection (for all) is made by using ¼" male ARO type quick-connect hose coupler.

Misc. Considerations - Spoil Board and Work holding

In most cases, it's necessary to utilize a spoil board over the machine table top. We recommend that you use MDF, LDF, or ULDF to increase flow. We also recommend purchasing a spoil board cutter to surface your table. Our Starter bit set includes this tool.

Work holding strategies can vary tremendously depending upon application, machine/options configurations, personal preference, etc. Common strategies typically involve vacuum, screws, clamping (various), t-tracks clamps, press-fit jigs, adhesives (double-stick tape, glue, and spray adhesives) and polymer/composite nails. You can find various discussions on these and other topics at <http://camheads.org>.

Machine Familiarization

Smartcore Orientation Video: <https://youtu.be/XMyEQWfJlck>

Please watch this video before scheduling your online orientation

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Software Familiarization

- **CAD/CAM Software - Vectric**

Your new CAMaster machine will come with Vectric V-carve Pro software (unless otherwise specified). A download link will be emailed to you with instructions on how to create an account with Vectric & Co. and start using your software.

- **Control Software – SMARTCORE powered by Yaskawa**

Your machine Control PC will arrive pre-loaded with Yaskawa Smartcore software/hardware. Advance copies of the Compass interface are not available as this will only operate on your control PC. Compass is the user interface that we developed to seamlessly navigate your machines' control system.

- **CAD/CAM Software – Other**

- Fusion 360 <http://www.autodesk.com/products/fusion-360/overview>
- EnRoute <http://enroutesoftware.com/>
- KCD (cabinet) <http://www.kcdsoftware.com/>
- MozaiK (cabinet) <http://www.mozaiksoftware.com/>

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Resources and Useful Videos

CAMaster Support
support@camaster.com
770-334-2144

CAMaster Website
www.camaster.com

CAMaster YouTube Channel
<https://www.youtube.com/user/CAMasterCNC>

CAMheads Forum
www.camheads.org

Vectric Software Support
www.support.vectric.com

Vectric Software Design Tutorials
<https://www.youtube.com/channel/UCqkhkxqPPLdtYy8ybykTlzQ>

Spindle Information
www.hsdusa.com

Tooling Information
www.vortextools.com
www.toolstoday.com

FPZ Regenerative Vacuums
www.fpz.com

Becker Vane Pumps
www.beckerpumps.com

Busch Mink Pump
<https://www.buschvacuum.com/us/en/products/mink/mink-mi-mm/mink-mm-1202-1322-ap>

Oneida Air Systems
<http://www.oneida-air.com>

CAMaster **COBRA ELITE**

Dimensions & Weights

CE-505

	ATC	T2/T3
Overall Dimensions	87"W x 101"L x 94"H	99"W x 101"L x 94"H
Overall Weight	3350 lbs.	3450 lbs.

CE-408

	ATC	T2/T3
Overall Dimensions	87"W x 138"L x 100"H	99"W x 138"L x 94"H
Overall Weight	3650 lbs.	3750 lbs.

CE-510

	ATC	T2/T3
Overall Dimensions	87"W x 162"L x 100"H	99"W x 162"L x 94"H
Overall Weight	3900 lbs.	4000 lbs.

CE-512

	ATC	T2/T3
Overall Dimensions	87"W x 186"L x 100"H	99"W x 186"L x 94"H
Overall Weight	4000 lbs.	4100 lbs.

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Electrical Requirements – CNC Machine

- Electrical power to the CNC system is provided by the customer.
- System power should be supplied through an easily accessible fused service disconnect switch or circuit breaker.
- All system accessories such as vacuum hold down, dust collection, etc. should also be connected with an adequate service disconnect or breaker.
- U.L. approved or equivalent over current, spike, or surge protection should always be used to connect equipment such as the Control PC and other accessories requiring 120v up to 15 amps. Any equipment requiring 120v over 15 amps should be supplied by fused service disconnect switch or breaker.
- Any electrical work should be done by a qualified, licensed commercial electrician.
- All customer electrical inputs must meet NEC and local electrical codes.
- The CNC System should be properly grounded.
- Service disconnect should be accessible at all times during System operation. Service disconnect should never be locked during System operation.

Cobra Elite (3) Phase	Volts/Amps	Connection Type
12 HP Manual Spindle	208-240V/70 amps	J-Box 4 wire connection
12 HP ATC Spindle	208-240V/70 amps	J-Box 4 wire connection
16 HP HSK Spindle	208-240V/90 amps	J-Box 4 wire connection

*** REQUIRES DEDICATED CIRCUIT**

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Electrical - Vacuum

Klein Single Phase Regenerative Blower

Model	208- 230V	cfm	In. Hg	Decibels [dB]
10 HP	60.0 amps - 1 PH	365	9.8	74

FPZ Regen Pump

Model	60 HZ @ 208-230V	60 HZ @ 460V	cfm	In. Hg	Decibels [dB(A)]
15 HP	40.0 amps	21.7 amps	381	11.1	82.5
20 HP	54.0 amps	29.8 amps	650	11.1	83
25 HP	63.0 amps	34.8 amps	726	10.3	87.2

Busch Mink Pump

Model	60 HZ @ 208-230V	60 HZ @ 460V	cfm	In.Hg	Decibels [dB(A)]
7.5 HP	20.0 amps	12.0 amps	170	27	80

Electrical - Oneida Dust Collectors

Model	Volts/Amps	Plug Type	Link to Manual
5 HP 1 PH. Cyclone	230v/20A	NEMA 6-20	http://www.oneida-air.com/pdf/5-hp-hi-vacuum-owners-manual-2014-web.pdf
5HP 3 PH. Cyclone	208-230v/14A	N/A	http://www.oneida-air.com/pdf/5-hp-hi-vacuum-owners-manual-2014-web.pdf
10HP Direct Drive	208-230v/30A	N/A	https://www.oneida-air.com/pdf/10-hp-direct-drive-system-manual-2015.pdf

CAMaster

High-Performance CNC Machinery

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MADE IN THE USA