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Proper Switch Settings CDS-2 and CDS-3

We receive calls every month from an owner of a CDS-2 or CDS-3 machine complaining that the compressor won't come on or the product won't freeze. We encourage you to check the Poor Freezing Performance guide for the solutions to most freezing problems, but the topic of switch settings deserves its own guide.

Quick Theory

The machine requires several inputs for the refrigeration system to come on and for the system to freeze the product. There is a temperature probe in each cooling drum that send the product temperature to the main computer (not user adjustable); there is system to measure the thickness of the product – the torque sensing board, auger shaft, auger motor shaft and adjustment knobs in the drawer (user adjustable), safety switches on the compressor (automatic); and inputs from how you set the switches in the drawer. All of these inputs must be operating properly and be set correctly for the compressor to come on and freeze the product.

Two Settings

Most people don't realize that there are two temperature settings on the CDS machines – “Ice” and “No Ice”. The Ice setting is obvious, but the No Ice setting changes the machine to cool the product to about 35 degrees (cold but not frozen). While you could use this setting for cold drinks like lemonade, it is designed to let the frozen product thaw to maintain its quality. If the product stays frozen for several days the ice crystals get so big that the product quality suffers. When the machine is operating full time it is best to let the product thaw and refreeze every day to maintain high quality. This is usually done with the Day/Night switch or a mechanical timer.

The Day/Night switch is important – when set to Day all of the switches operate as shown on the drawer. When set to Night, the machine overrides the Ice switches and puts both hoppers into No Ice mode. Night mode also turns off the hopper lid lights.

Some machines were equipped with a mechanical timer to switch between Day and Night Modes. The timer is inside the machine on the right side as you look at the front of the machine. When a clip on the timer is pushed in the machine will go to Day mode for that period. When the clip is out, the machine will be in Night mode. If you are using a timer, be sure to set the timer to the current time and observe AM and PM. If you are operating the machine for short period, leave all clips in to operate the Day/Night mode switch manually.

Also, remember that the auger must be on and turning for a hopper to freeze.

Switch Settings To Freeze Product

It is most simple to set all switches to the center of the drawer for the machine to freeze both hoppers.

The chart below explains the results depending on the indicated switch positions for a CDS-2:

Main	Day/Night	Left Auger	Right Auger	Left Ice	Right Ice	Results
On	Day	On	On	Ice	Ice	Both hoppers freeze
On	Day	On	On	No Ice	No Ice	Both hoppers cold
On	Night	On	On			Both hoppers cold
On	Day	Off	On	Off	Ice	Right hopper freeze
On	Day	On	Off	Ice	Off	Left hopper freeze

The chart assumes the mechanical timer, if equipped, has all 24 hours set to Ice (clips pushed in). Same concepts for a CDS-3 machine, just apply to the center hopper as you would left or right hoppers.

Important things to remember when setting your CDS machine to freeze:

1. The Day/Night switch must be in Day mode.
2. The timer, if equipped, must be in Day mode (clips pushed in).
3. The augers must be turning.
4. The Ice Switch must be in Ice position.

Thickness Dials

Each hopper has its own thickness dial. These allow the user to adjust the thickness of the product (thinner is more liquid, thicker is more solid). The higher the number the thicker the product will be. This input is part of the torque sensing circuit and will impact the amount of time the compressor stays on (the higher the thickness the longer the compressor stays on.) We recommend you start at the middle of the range and adjust up or down one number at a time to suit your preference for the product mix you are using. If set to freeze (Ice mode) and everything in the machine is working properly, the compressor will turn on regardless of where the dial is set.

Compressor Won't Turn On Or Machine Won't Freeze Product

If you are sure your switches are properly set but the machine does not freeze your product, first read the Poor Freezing Performance guide. Then check the CDS Error Code Lights guide. If you still have problems with freezing, your machine may have a mechanical problem.

Please contact us at ask@margaritaguys.com if you have questions.

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