



# Butter Churn

## Operating Instructions

### *8-gallon or 35-gallon capacity*

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# General Safety Rules

## WARNING: READ ALL INSTRUCTIONS

Failure to follow the safety rules listed below and other basic safety precautions may result in serious personal injury.

### KNOW YOUR BUTTER CHURN

Read and attain a thorough understanding of the owner's manual and label attached to the churn. Study your churn application limitations and its potential hazards.

### KEEP SAFETY SHIELDS IN PLACE

The shields must be maintained in working order.

### KEEP THE WORK AREA CLEAN

Disorderly work area can cause accidents. Ensure that the floors do not become slippery as a result of liquids or any other materials.

### AVOID DANGEROUS ENVIRONMENTS

Keep your work area well illuminated. Provide adequate surrounding work space.

### KEEP CHILDREN AND ALL OTHER GUESTS AWAY FROM THE CHURN

All guests should be positioned at a safe distance from the work area.

### DON'T FORCE THE CHURN

Your churn will perform better and safer at the rate for which it is designed. Don't force the churn to perform a job for which it was not designed.

### WEAR THE PROPER APPAREL

Do not wear any loose clothing, gloves, neck ties, rings, bracelets, other jewelry, and tie back bonnet strings and hair which may become caught in moving parts. NONSLIP footwear is recommended. Wear protective hair covering to keep hair away from face. Long sleeves should be rolled above the elbow.

### DON'T OVERREACH

Keep proper footing and balance at all times.

### MAINTAIN YOUR CHURN WITH CARE

Clean your churn frequently in order to maintain the safest operation. Follow the instructions for lubricating chain for motor and removing/ installing shaft and paddles.

### DISCONNECT YOUR CHURN

Disconnect before servicing your churn, or when changing accessories such as shaft and paddles.

### AVOID ACCIDENTAL STARTING

Ensure that the switch in the OFF position before plugging in your churn.

### NEVER STAND ON THE CHURN

Serious injury may result if the churn is tipped.

### CHECK ANY DAMAGED PARTS

If any part of the churn is damaged discontinue use until the part is carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other control factors that may affect its operation. A chain, shaft, paddle or other part that is damaged should be properly repaired or replaced.

### NEVER LEAVE THE CHURN UNATTENDED WHILE IT'S RUNNING

Turn off the power before walking away. Don't leave the churn until it reaches a complete stop.

### DRUG / ALCOHOL / MEDICATION

Do not operate the churn while under the influence of drugs, alcohol or any medication.

### USE THE PROPER EXTENSION CORD

Your churn is equipped with a polarized plug (one blade is wider than the other) to reduce the risk of electrical shock. This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. DO NOT change the plug in any way.

## Specific Safety Rules

- **Always** keep your hands out of line with the chain, shaft and paddles.
- **Never** reach past the rotating paddles with either hand.
- **Never** try to free a stalled shaft or paddle without turning OFF machine and UNPLUGGING from power source to prevent motor damage.
- **Avoid** awkward operations and hand positions where slip could cause your hand to move into moving paddles or chain-driven motor.
- **Never** use solvents to clean plastic parts. Use approved cleaning solutions.
- **Never** alter your butter churn. Altering or modifying the churn is considered misuse and may result in hazardous conditions.
- **Always** replace the power cord immediately if the power cord is worn or damaged in any way to avoid shock or fire hazard.
- **Only** use Carriage Machine Shop replacement parts. Any other parts may create a hazard.

# Electrical Connections

## Grounding Instructions

All grounded, cord-connected tools: In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electrical shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electrical shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

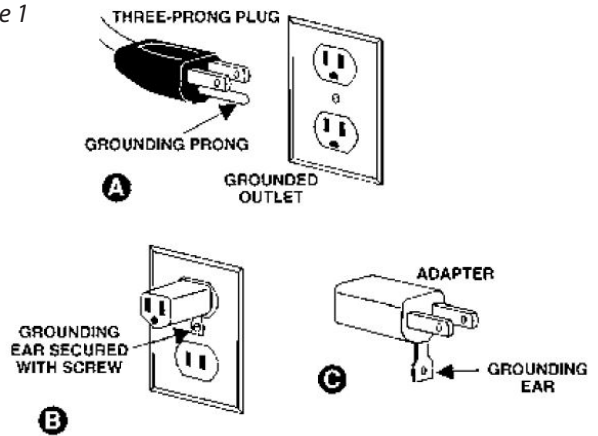
Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug. Repair or replace damage or worn cords immediately.

### Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating less than 150 volts:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Figure 1(A). The tool has a grounding plug that looks like the plug illustrated in (A). A temporary adapter, which looks like the adapter illustrated in Figure 1(B&C), may be used to connect this plug to a 2-pole receptacle as shown in (B) if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. (This adapter is not applicable in Canada.) The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

Make sure the tool is connected to an outlet having the same configuration as the plug. No permanent adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel and after reconnection, the tool should comply with all local codes and ordinances.

Figure 1



## Extension Cords

If an extension cord is necessary, make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Use the chart below as a general guide in choosing the correct size cord. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

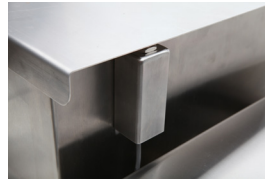
Recommended Gauges (AWG) of Extension Cords

Amps	Extension Cord Length *					
	25 feet	50 feet	75 feet	100 feet	150 feet	200 feet
< 5	18	18	18	14	12	12
5 to 8	18	18	14	12	10	NR
8 to 12	14	14	12	10	NR	NR
12 to 15	12	12	10	10	NR	NR
15 to 20	10	10	10	NR	NR	NR
21 to 30	10	NR	NR	NR	NR	NR

\*based on limiting the line voltage drop to 5V at 150% of the rated amperes.  
NR: Not Recommended.

# Getting to Know Your Butter Churn / Identification of Parts

Dimensions	L	W	H
	40"	22"	40"



lid safety sensor



paddles

lid

churning compartment



control panel

motor compartment

rocking handle

casters

water jacket port



buttermilk spout

paddles



removable shaft

shaft seal

## Assembly



Insert shaft & seal.



Install paddle: Of the first two paddles, the (a) paddle furthest away from the end has to be the one pointed up. Shaft connection has to be horizontal to install and lock the shaft.



Insert pin.



## Operation

1. Plug in unit.
2. Pour cream into paddle basin. NOTE: Fill only up to the shaft with cream (for butter).
3. If using the water jacket: Put hot or cold water into the churn jacket port to control the cream temperature.
4. Shut lid and turn unit on.
5. Set to desired speed (usually top speed).
6. Once the butter is made, drain buttermilk through spout.
7. Work the butter by tipping the rocker back and forth. This removes the buttermilk.
8. Open the lid, wash the butter and drain it.
9. Mix the salt in or use desired recipe. (See recipe on next page).
10. Remove the shaft and paddles to clean the butter off.



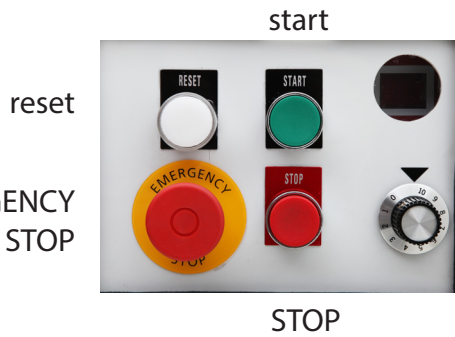
## Cleaning

- Unplug the machine.
- Lift top lid to expose shaft and paddles.
- Remove stainless pin.
- Unlock the shaft of the paddles at the opposite end of the paddle. Of the first two paddles, the paddle furthest away from the end has to be the one pointed up. Shaft connection has to be horizontal to remove the shaft.
- Lift shaft and paddles out of machine.
- Clean only with approved milk equipment detergent / sanitizer and HOT water.

## Other Uses for the Butter Churn

Machine can also be used as a wet ingredient mixer (i.e. chocolate milk, yogurt, etc.)

# Controls



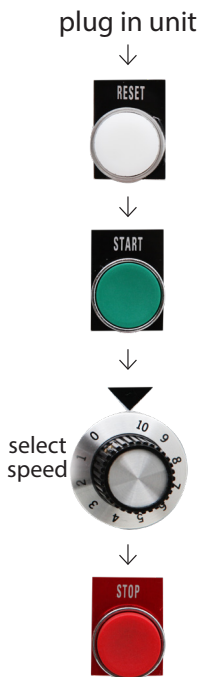
frequency drive display

speed control

## Frequency Drive Display Codes

- PF = Something is stuck, motor is stalled. Remove & reset.
- LF = Often displayed, hit reset & re-power.

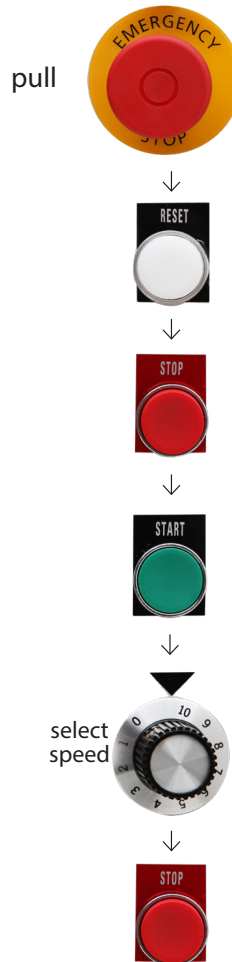
### BASIC OPERATION



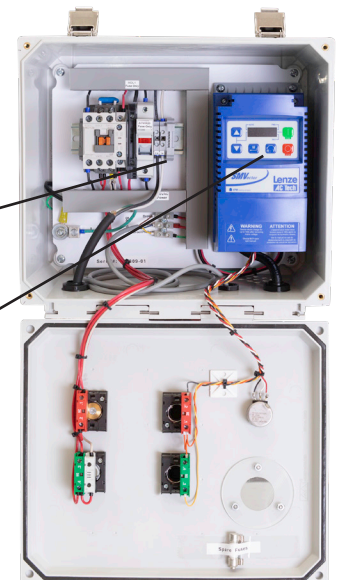
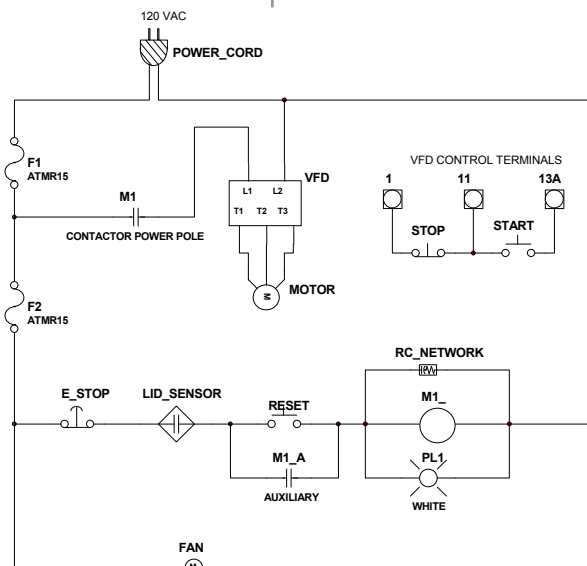
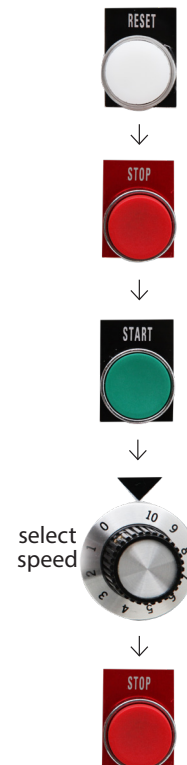
### EMERGENCY STOP



### STARTING AGAIN FROM EMERGENCY STOP

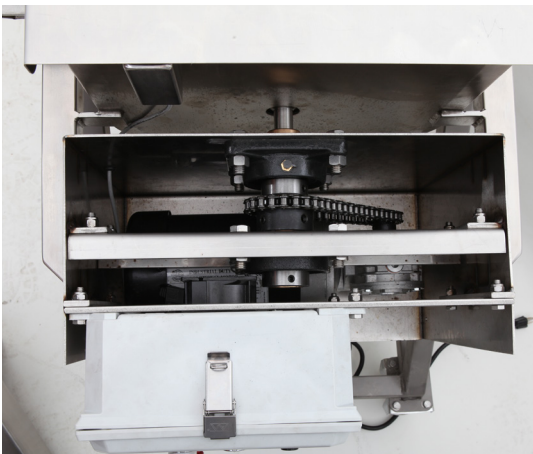


### STARTING WHEN LID IS LIFTED



## Maintenance

- Keep cord in good condition.
- Grease the bearings and chain 2X/year.
- Keep motor compartment clean & dry.



## Troubleshooting

PROBLEM	SOLUTION
Motor stopped	Something may be stuck and overloaded the motor. See the PF code. Unplug unit! REMOVE whatever is stuck. Restart.  Fuse may have blown. Unplug unit, then replace fuse.
Motor doesn't start	Check to see that unit is plugged in.  Fuses may need to be changed.
Unit doesn't change speeds	Be sure all wires are connected. Call manufacturer.

## Homemade Butter Instructions

### Step 1: Proper Temperature

Clean and sterilize the butter churn. Fill churn halfway with cream and allow cream to warm to 50-55° F in summer and 55-60° F in winter for churning.

### Step 2: Churning

Run churn until butter has separated from the liquid.

*Knowing when to stop: Churn until the butter granules start to "chunk up" and stick together and separate from the liquid (buttermilk).*

### Step 3: Washing the Butter

Pour contents of bucket into a strainer set over a bowl. Reserve the buttermilk for cooking or drinking (refrigerate immediately). Rinse under very cold water while squeezing and kneading the butter until the water runs clear. *The cloudy water is buttermilk which must be washed out or it will produce off-flavors in the butter. Discard this cloudy liquid.*

### Step 4: Shaping

When the butter is clean, work with a wooden spoon or rubber spatula to press out any remaining liquid. Discard this liquid. If desired, add salt to the butter. (Salted butter will keep longer.)

### Step 6: Storage

Transfer the butter to a clean container or plastic wrap for keeping, pressing with a wooden spoon or spatula to dispel any air bubbles. Refrigerate or freeze until ready to use.

Be sure to thoroughly wash your churn thoroughly after each use!

For a delicious twist, try adding

- Honey & cinnamon
- Fresh parsley, tarragon & thyme
- Roasted red pepper & garlic
- Lemon zest, lemon juice, fresh dill





## MILK PROCESSING EQUIPMENT WARRANTY

### 12 MONTH LIMITED WARRANTY:

Your milk processing equipment from Carriage Machine Shop LLC (CMS LLC) is warranted for a period of 12 months from the date of manufacture, subject to the terms & conditions as follows:

- CMS LLC will repair or replace any part of our milk processing equipment which becomes faulty within a period of 12 months from purchase, provided the milk processing equipment is returned to us, shipping paid, and that the milk processing equipment has only been used in the normal and correct way. We reserve the right to change/improve specifications from time to time without notice. **Any repairs or modifications performed by anyone other than CMS LLC automatically voids this warranty.**
- Parts: CMS LLC will replace, at no charge to the owner, any defective parts which CMS LLC determines affects the operation of the milk processing equipment. Replacement parts will be shipped to the owner. Owner is responsible for shipping costs.
- Labor: The owner may at his option and with CMS LLC approval, have the milk processing equipment shipped to our shop for repair. All labor and material costs for repair at the factory will be borne by CMS LLC, but the owner assumes all shipping costs. **Should the owner choose a source other than CMS LLC to repair the milk processing equipment, this warranty will be voided and CMS LLC no longer assumes responsibility for the milk processing equipment.**
- Warranty applies to original owner only.

### SHIPPING DAMAGES:

Shipping damages must be reported within 24 hours of delivery. Please keep your milk processing equipment and all packing materials for possible inspection. If the milk processing equipment returned under this clause is found to be perfect and in full working order, the equipment will be returned to you and an administration fee of 15% of the purchase price plus the shipping cost back to you will be charged.

### RETURNS:

No returns will be accepted unless authorized by a representative of CMS LLC. Merchandise will be credited when it is in our warehouse. Return shipping costs must be prepaid. A 25% restocking fee applies to all returned or refused merchandise. No returns will be accepted after 30 days unless upon agreement. Items to be returned must be in original condition.

**NOTICE:** Carriage Machine Shop will not be liable or responsible for any type of accident that may arise from any of our products. Use all of our products at your own risk.

**For replacement parts or service,  
please contact the manufacturer:**



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264 Maple Avenue  
Bird-in-Hand PA 17505  
**717-397-4079 ext 125**