

## Trouble Shooting Glossary

**Ambient Temperature.** The temperature of the air in the immediate vicinity of the operating machine. High ambient temperature can reduce the capacity with an air-cooled condenser.

**CO<sup>2</sup> Pressure.** Used to pressurize and direct flavored syrup or water to the machine.

**Capacity.** The total capacity of frozen product that a freezer can produce in a given period usually stated in gallons per hour (G.P.H.).

**Carbtube.** Flow control device that allows product and air to be blended together. The air added to the product is labeled as over-run. The over-run helps provide a thick and rich product. If the carbtube is not used the product will be heavy, wet, grainy, will not thicken and product temperatures will be lower than the specified 18-21 degrees soft serve and 25-28 degrees shake. *Carbtubes are not used in frozen beverage machines.*

**Condenser.** The part of the refrigeration mechanism that receives hot, high-pressure refrigeration gas from the compressor and cools gaseous refrigerant until it returns to a liquid state.

**Consistency.** The viscosity or thickness of the product in the freezing cylinder.

**Consistency Control.** A control that senses the thickness or viscosity of the product in the freezing cylinder.

**Dasher.** The part of the freezer that scrapes frozen product off the inside of the freezing cylinder and blends the product. In a gravity freezer, this assembly also moves the product forward to be dispensed.

**Duckbill Check Valve.** Used on SAS Shake machines to direct flavored syrup into a base shake product and to be blended together.

**Front Plate.** Seals the front of the freezing cylinder and provides a means for dispensing the product. On gravity fed freezers, the front plate indirectly holds the dasher in place via the stator rod. It also provides compression for the rear seal.

**Front Plate Pressure Relief Valve.** Spring-loaded button on located on the front plate when depressed will allow air to escape from the cylinder. Used only on specific frozen beverage machines.

**Freezing Cylinder.** The part of the refrigeration mechanism in which the refrigerant vaporizes and absorbs heat. This is the part of the freezer where the liquid product is frozen.

**Magnetic Agitator.** Installed in the mix-pan reservoir and used to maintain product temperatures and prevent product separation. The bottom of the agitator must be lubricated.

**Mix-pan.** Is the top container that product is poured into. It is used as storage until product is needed for the freezing cylinder. Soft Serve and Shake machines have refrigerated mix-pans to prevent bacteria from forming.

**Mixing Product / Product Temperatures.** If your using a product that has to be mixed with water or other ingredients, it is imperative the product is mixed consistently everyday. If not, the machine will not run consistent and could possibly damage components. This is very important with frozen (slush) beverages. Always mix to the product manufactures recommendations. The machine is designed to operate with a frozen product that falls within these temperatures (soft serve 18-21 degrees, yogurt 17-20 degrees, shake 25-28 degrees, non-alcoholic frozen beverage 25-28 degrees and alcoholic frozen beverage 18-22 degrees).

**Overrun.** The volumetric increase of product from the liquid to the solid state due to the incorporation of air into the frozen product. Overrun is stated as a percentage.

**Product Breakdown.** The decline in frozen product quality resulting from excess agitation or temperature variations of product that has been in the freezing cylinder too long. Product, which has broken down, may be grainy, wet and or heavy. Product breakdown is easily detected by taking the temperature of the dispensed product. Temperatures will always be lower than recommended product temperatures.

**Rear Seal.** This part is stationary during operation and must not move. When installed and lubed properly, seals mix in cylinder. When installed and lubed improperly, it causes main shafted bearing failure.

**Regulator.** Used to control the rate of water or CO<sup>2</sup> P.S.I..

**Rerun.** The reuse of previously frozen product after it has melted to a liquid. Rerun is obtained when emptying a freezer for periodic cleaning. Use caution when using rerun as it may contain high bacteria or Coli count, which could contaminate the fresh mix with which it is combined. Freezers should never be started with rerun. If used at all, it should be blended with fresh mix at a ratio of seven parts new mix with three parts old mix, after initial freeze-down with fresh mix.

**Scraper Blades.** The component that scrapes the frozen product from the freezing cylinder surface. Blades must be sharp, as dull blades will leave product on the freezing cylinder, insulating the mix from the refrigerant.

**Spinner Assembly.** An externally installed or internally installed component used to blend a base product with flavoring or other particulate.

**Spigot Plunger.** The mechanism on the front plate through which the product is dispensed.

**Starved Cylinder.** A starved cylinder is often mistaken for a freeze up or product too thick. A starved cylinder (starving) is created when a larger percentage of frozen product is dispensed from the freezing cylinder than the percentage of liquid product entering the freezing cylinder from the mix-pan. There are several causes of starving.

1. Overdrawing: Dispensing more product from the machine than it's designed to do. This would occur if a machine were undersized for its application.
2. Inserting the carbtube prior to pouring the initial product into the mix-pan at the start of each day. This forms a vacuum and traps a large percentage of air in the cylinder; therefore the cylinder will not fill with product.
3. When carbtube hole setting is not set on the correct hole size for the amount of product being drawn. Example, if several customers dispense product from the machine with the carbtube set on the small hole, it will not allow the freezing cylinder to be replenished with product in a timely manner. Change carbtube setting to a larger hole.
4. Carbtube not being cleaned, thus allowing product build-up in the carbtube holes. This restricts product from entering the freezing cylinder.
5. Mix out light not working and therefore not alerting operator the need to add product.
6. Pouring frozen or semi-frozen product into the mix-pan reservoir. This will form a blockage in the carbtube hole and not allow liquid product to flow into the cylinder.
7. Mix-pan too cold, allowing product to freeze in mix-pan and restricting product flow.
8. Restrictor tube (frozen beverage only) installed into the rear hole, should be installed in the front hole of the mix-pan reservoir.

**Stator Rod.** Acts as a bearing surface. Helps enfold air for overrun. Transmits compression to the rear seal. Helps mechanical torque system sense torque. Be sure to lubricate.

**Syrup Solenoid Valve.** Used to control the rate of flavor syrup.

**Syrup Tanks.** Pressurized tanks used to store syrups or water.