



Operation & Trouble Shooting for ICETRO Slush freezers



Revised: 7/2/2024



CAUTION: Information in this manual is intended to be used by authorized Taylor service technicians only.

Note: *Continuing research results in steady improvements; therefore, information in this manual is subject to change without notice.*

Note: *Only instructions originating from the factory or its authorized translation representative(s) are considered to be the original set of instructions.*

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OPERATION

Specifications

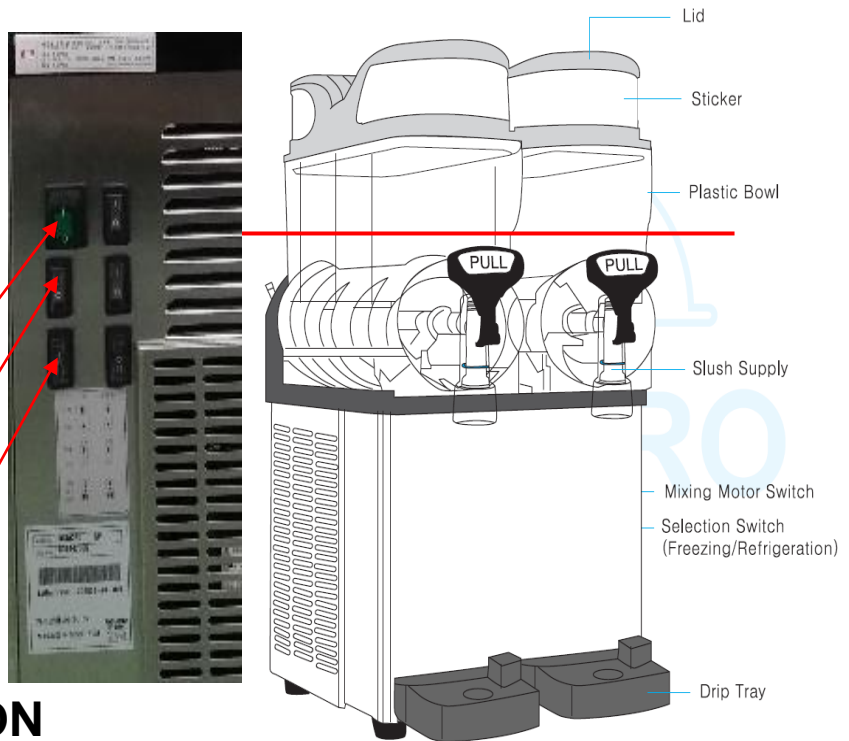
Model	SSM-52	SSM-180	SSM-280	SSM-420
Bowl# & capacity	2 X 2 gal.	1 X 3.2gal.	2 X 3.2gal.	3 X 3.2gal.
Voltage	115V/60Hz/1Ph			
Power plug	NEMA 5-15P			
Amp	5A	4.5A	10A	12A
Minimum circuit	15A	15A	15A	15A
Gear Motor	2 X 67W	1 X 67W	2 X 67W	3 X 67W
Compressor	1 X 0.5HP	1 X 0.35HP	1 X 0.85HP	1 X 0.85HP
Refrigerant	R134a	R404A	R404A	R404A
Dimensions (W x D x H)	16.6" x 15" x 26.2"	7.7" x 19.2" x 33"	15.6" x 18.5" x 35.4"	23.6" x 18.5" x 35.4"
Range of operation Temperature	32F ~ 100F			
Freeze down time	60 minutes at 90F / 80 minutes at 100F			
Installation	Indoor			
Clearance	Around 6" - 8" all around the unit			

Requirements for Slush mix(Ingredient)

- 1. Brix(Sugar contents) : Min. 13 Brix ~ Max. 32 Brix**
Slush mix less than 13 Brix overloads gear motor.
It damages gear motor.
- 2. Mix temperature for priming : less than 68F**
- 3. Slush product temperature : 29F ~ 30F**
(Slush freezing point : 30F)
- 4. Slush Cylinder(Evaporator) Temperature : -31F ~ -22F**

Slush Machine Operation Sequence

After pouring 1.3gal. of mix to each bowl
(SSM-180, 280, 420)



Step 1. Main Switch ON

Step 2. Auger Switch ON (Activate gear motor)

Step 3. Freezer Switch ON (Activate compressor)

Step 4. Solenoid valve energized to supply refrigerant

Step 5. Pressure equalization for three minutes

(Compressor delay for three minutes at first time)

Step 6. Compressor starts operation

Step 7. Mix freeze down (50~70 minutes depending on ambient temperatures.)

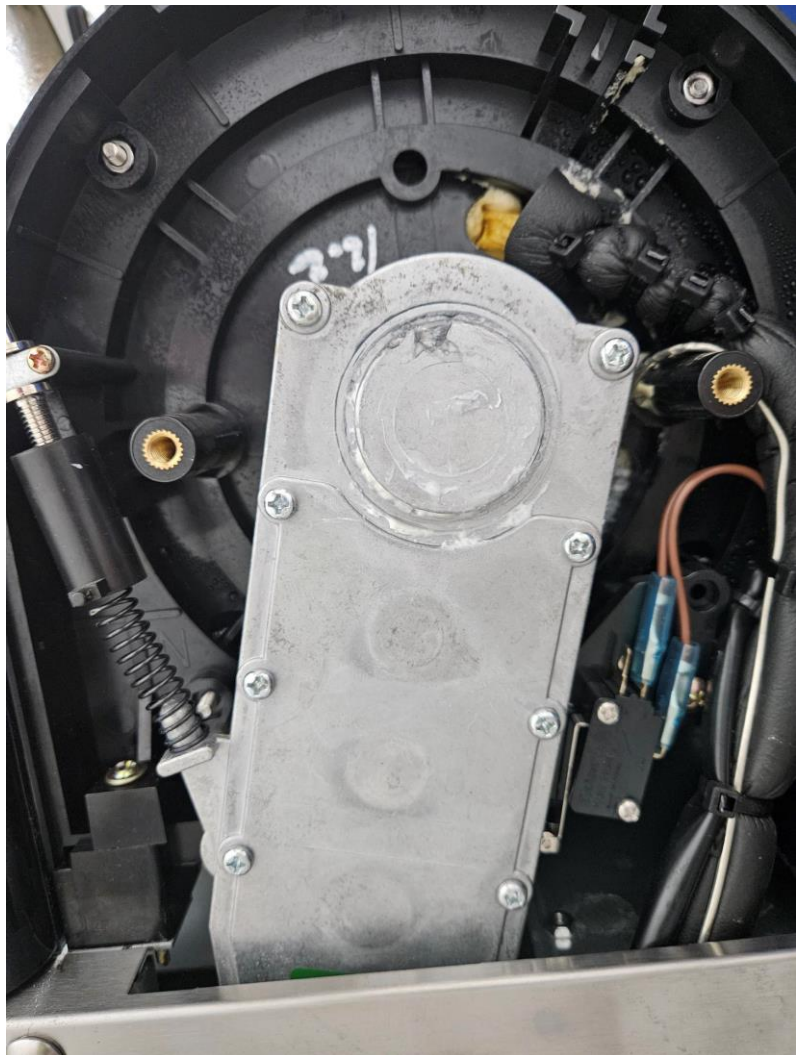
Step 8. Compressor stops when product freeze down

Slush Machine Viscosity Control

- Torque control (Taylor Model 430)

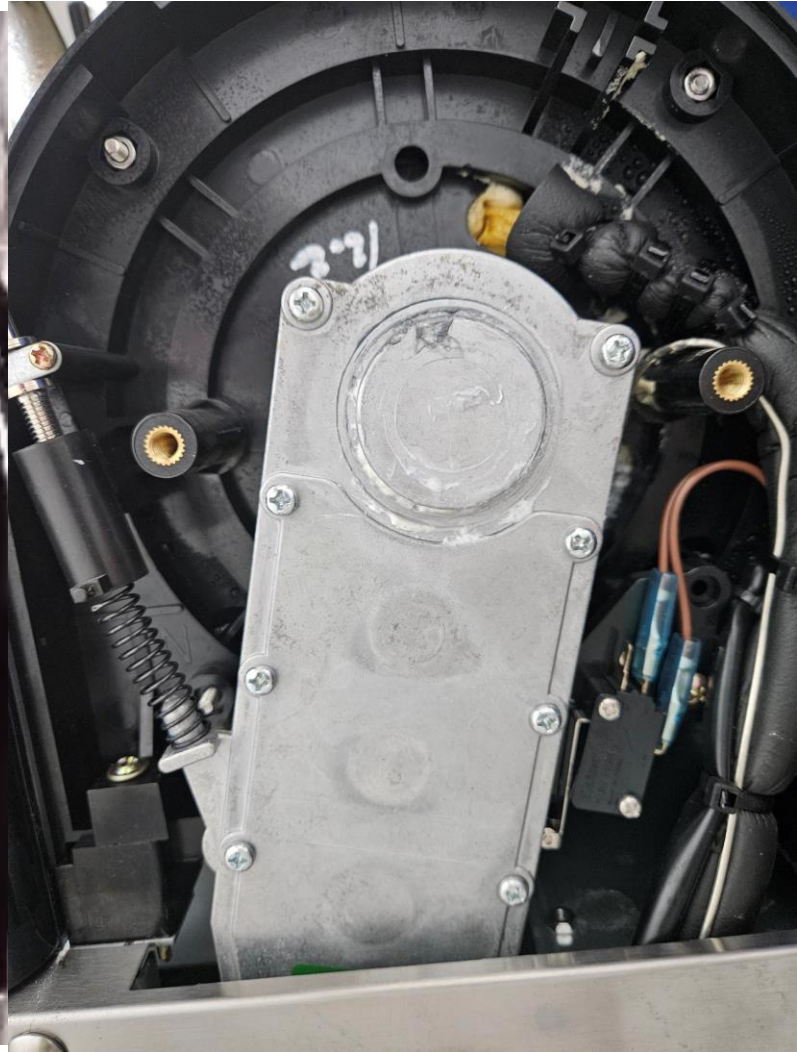
Slush Machine Viscosity Setting

- Adjust tension bolt



Slush Machine Viscosity Setting

- Turning Knob of tension adjustment bolt
- Turning to clockwise : Lower viscosity
- Turning to counterclockwise : Higher viscosity
- Adjust knob Max. 4 step (Step 1 to Step 4)
- Normal setting : Step 2



Slush Machine Anatomy

- 1) Condenser
- 2) Compressor

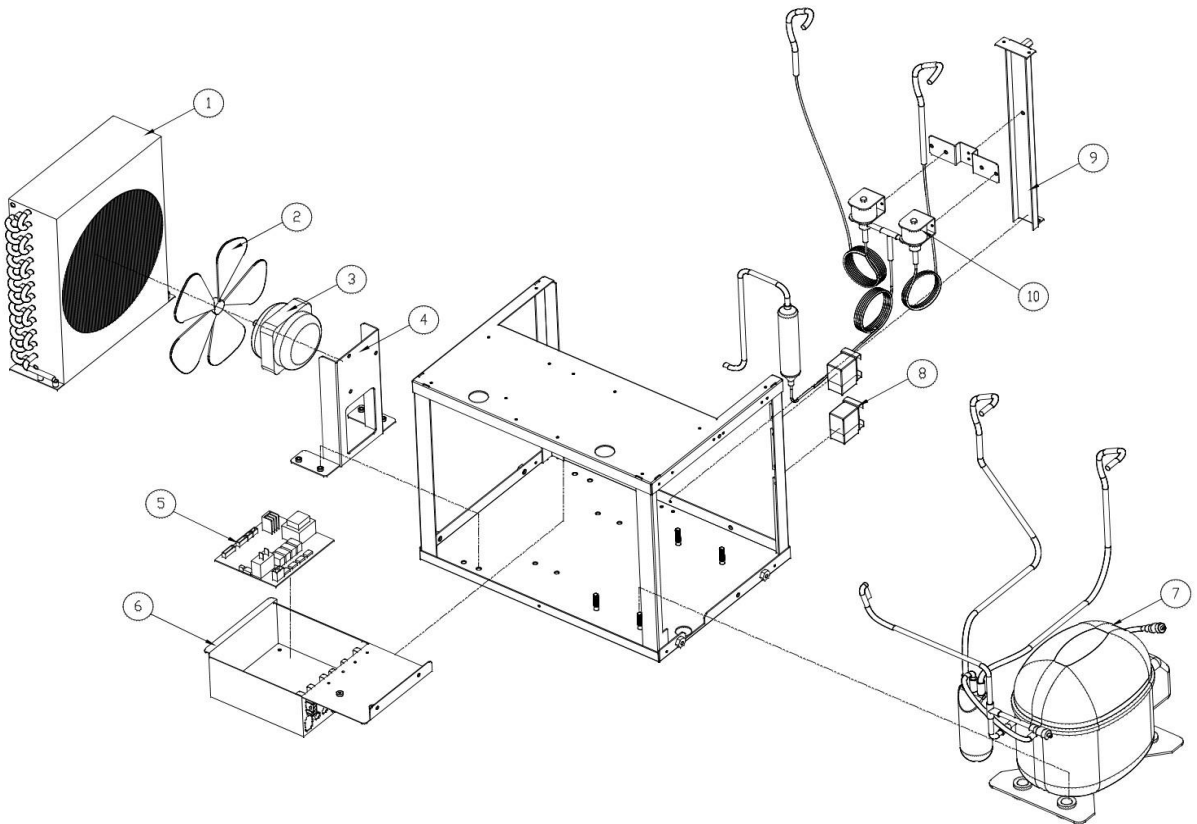


Slush Machine Anatomy

3) Start capacitor

4) Run capacitor

5) Start relay



Slush Machine Anatomy

6) Gear motor

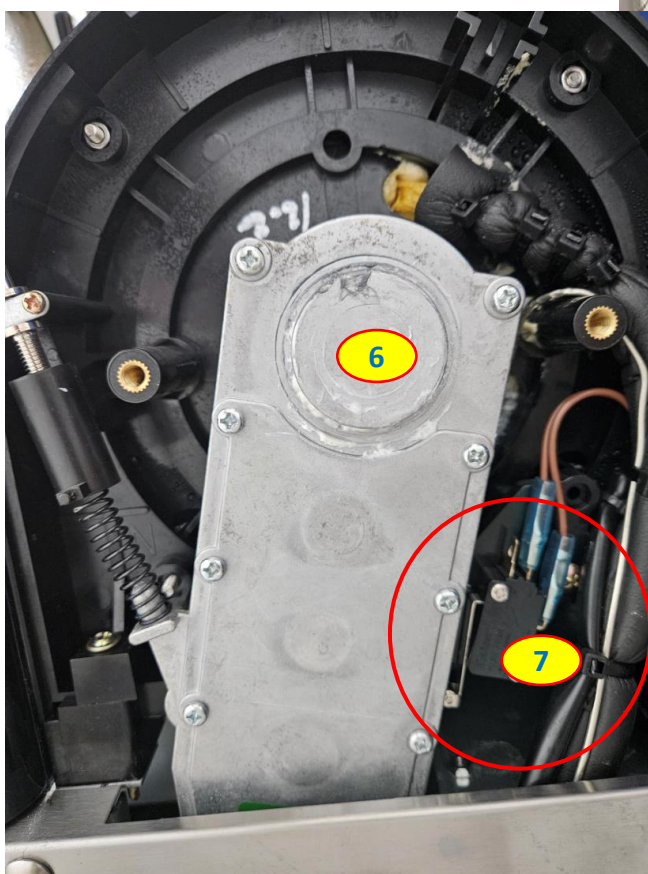
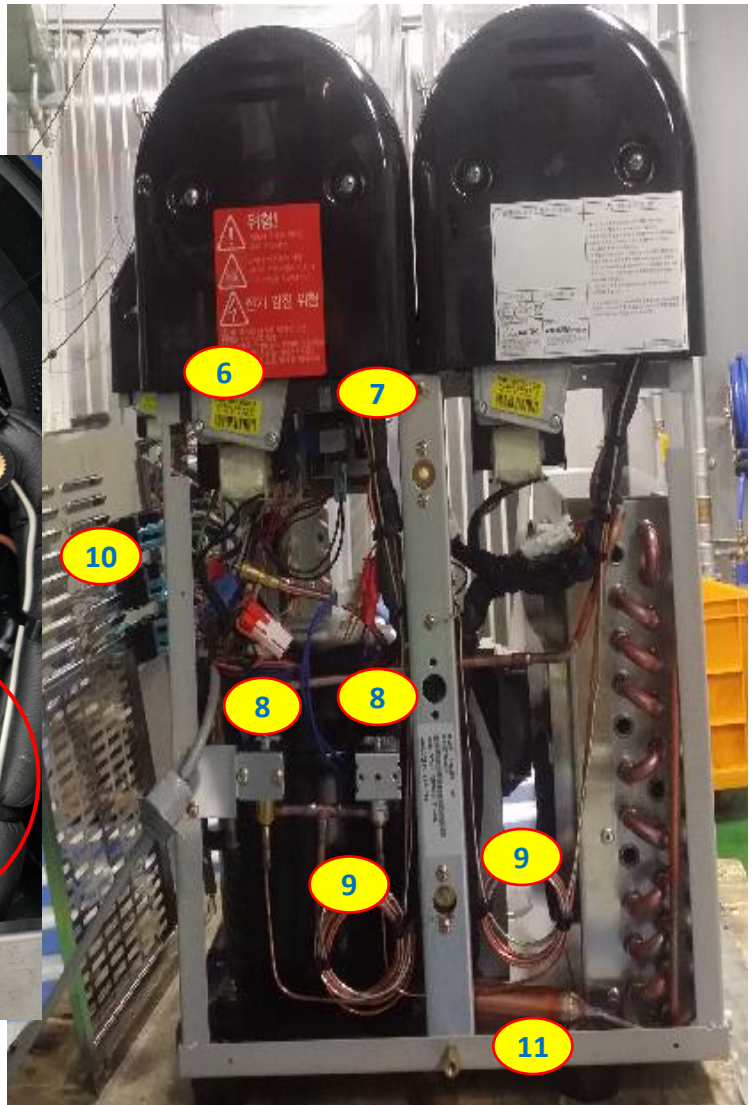
7) Micro Switch

8) Solenoid valve(Body + Coil)

9) Capillary

10) PCB

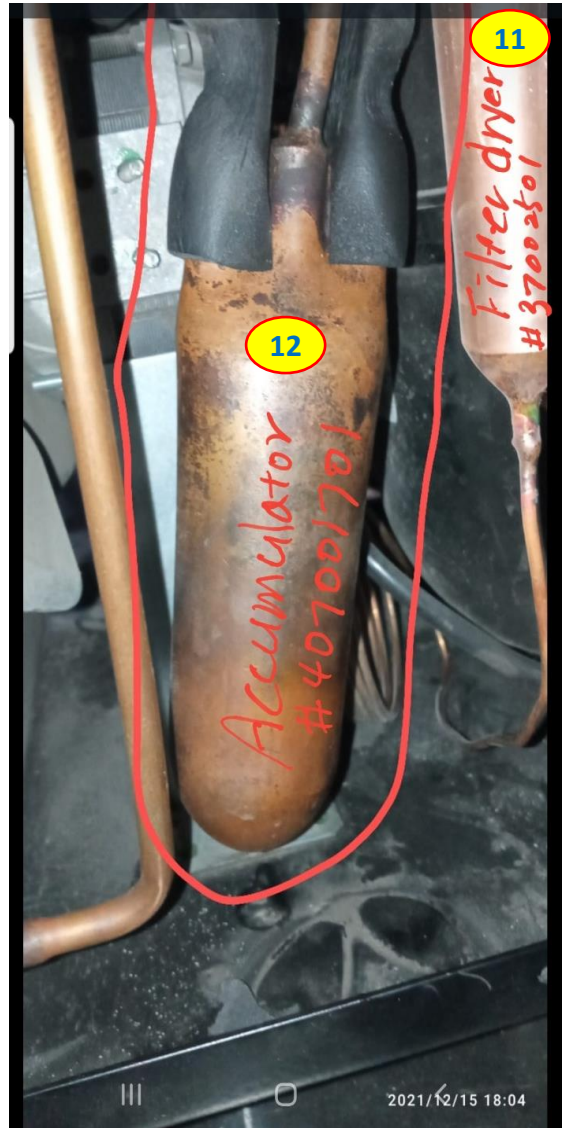
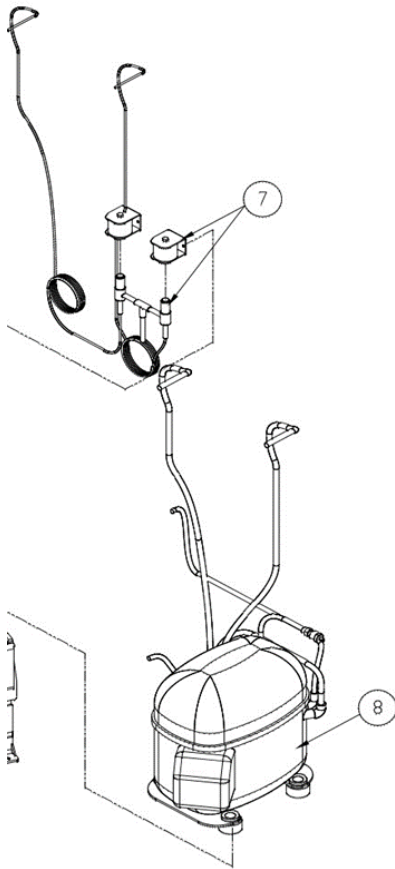
11) Filter Dryer



Slush Machine Anatomy

11) Filter Dryer

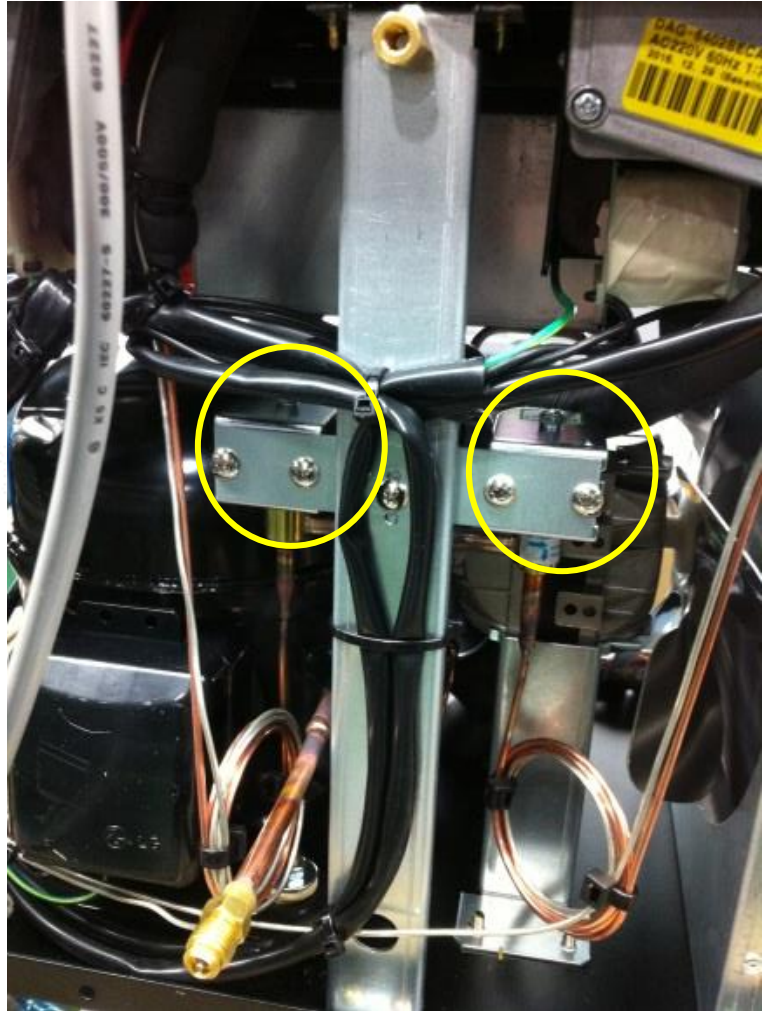
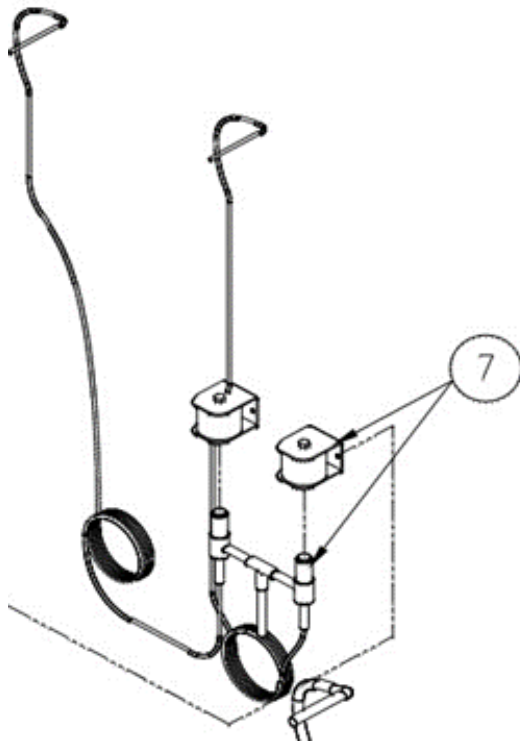
12) Accumulator



Slush Machine Anatomy

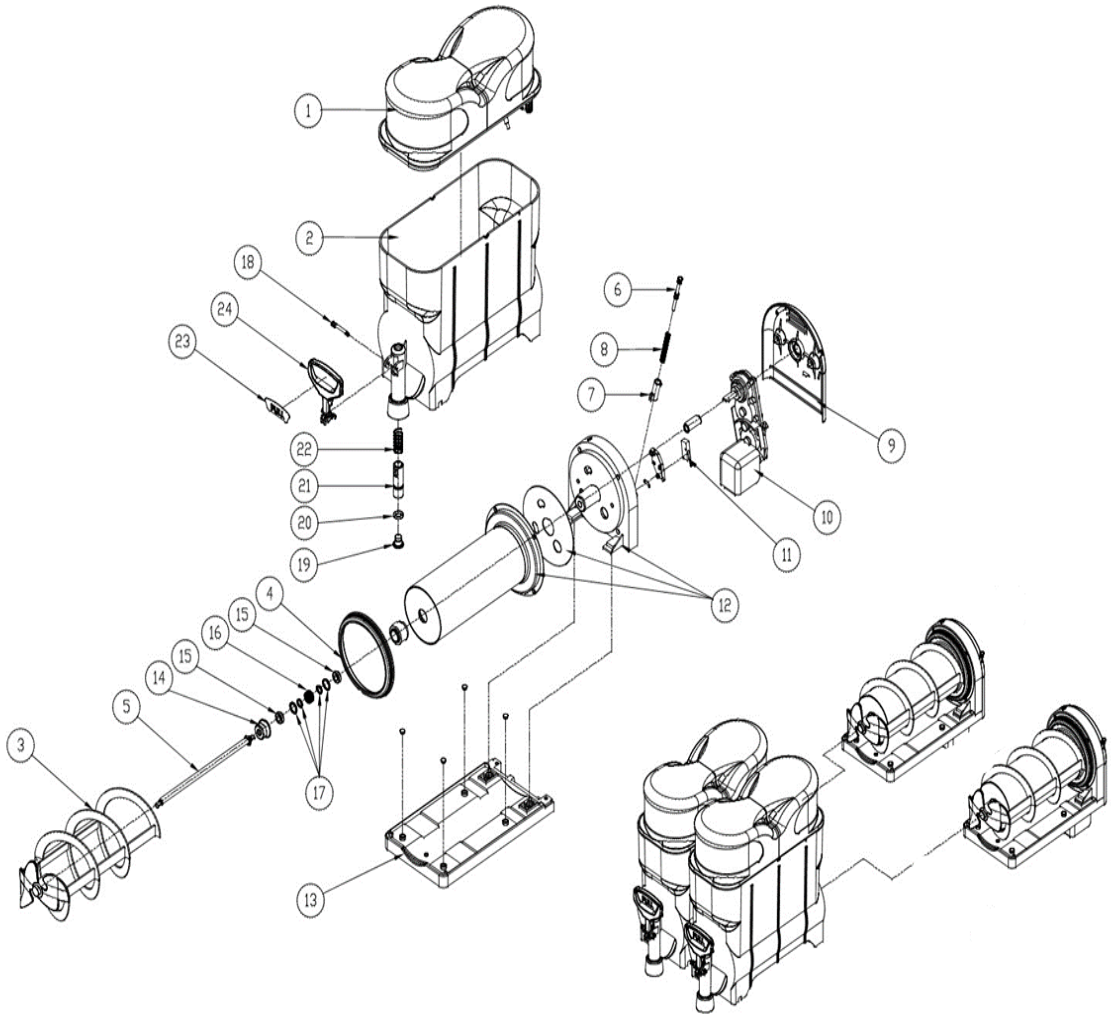
Solenoid valves

Capillaries



Slush Machine Anatomy

13) Cylinder and parts



The unit doesn't freeze down each bowl while Bowl and machine is very hot?

Check ventilation and clearance

When slush unit trips circuit breaker?

Depending on model, it needs Min. 15A circuit breaker. Check if too many machines are plugged in a single outlet.

Run capacitor amp : around 3A

Start capacitor amp : 29A (24~32A)

When lid lamp is ON but spiral doesn't spin?

Check PCB and replace it.

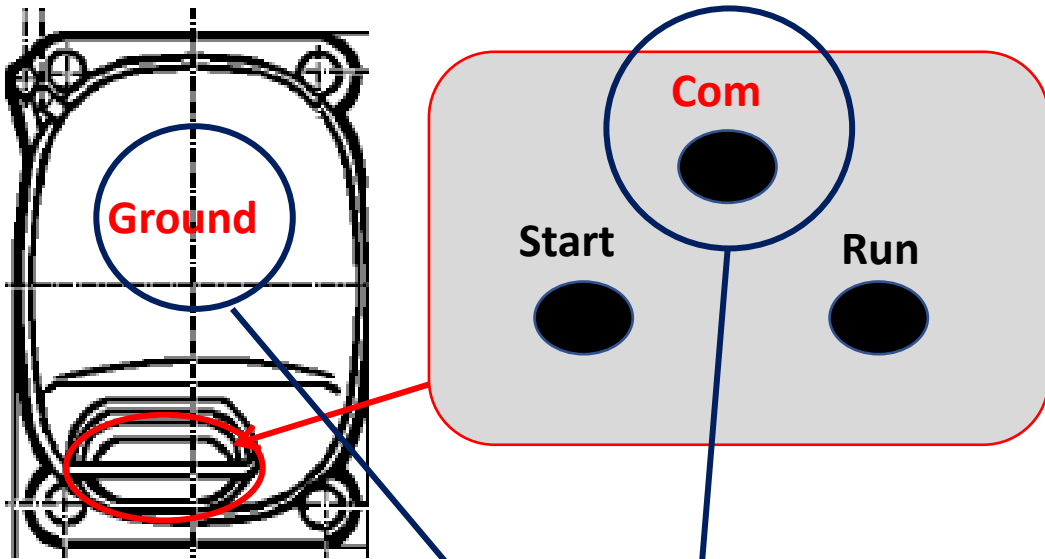
When lid lamps are ON and spirals run but compressor doesn't kick off?

Check OLP, start and run capacitor

1 cause can be start capacitor and #2 is compressor.

If start capacitor is bad, compressor keep calling for Amps that leads to circuit breaker tripping.

Compressor check



Please check **Com** and **Ground** with tester



If tester indicates, ∞
=> Compressor is ok

If tester indicates, $K\Omega/M\Omega$
=> Compressor is broken

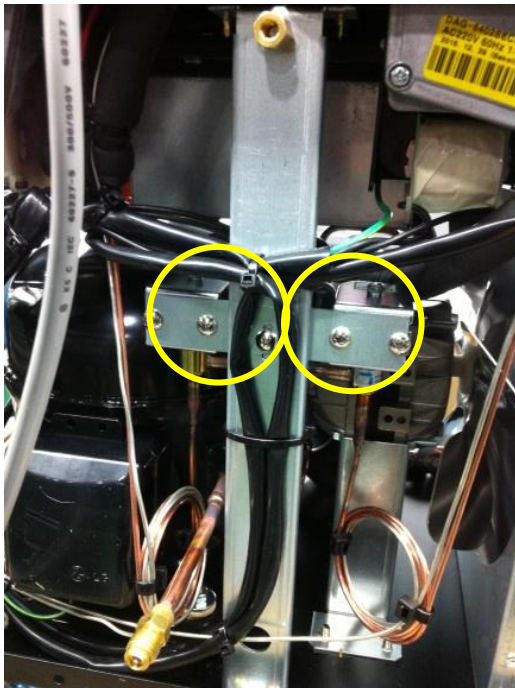
The unit doesn't freeze down each bowl while Bowl and machine is very hot?

Check ventilation and clearance

When One of bowl doesn't freeze down or get cooled? Compressor is getting hot.

1. Solenoid valve check

Solenoid valves(circled in yellow) begin supplying refrigerants after three minutes passed since switch-ON. Please check if you can hear the cranking sound (sounds like 'tick')



When One of bowl doesn't freeze down or get cooled? Compressor is getting hot.

2. Fan Motor

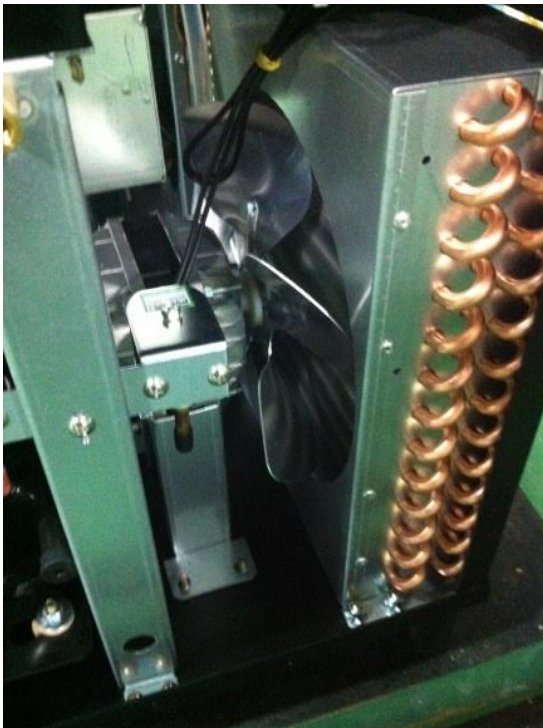
Please check if fan is running when the compressor works.

Fan motor problem can be a reason for compressor is getting hot.

Compressor may become hot because cooling doesn't work,

High-pressure cut starts working to protect compressor.

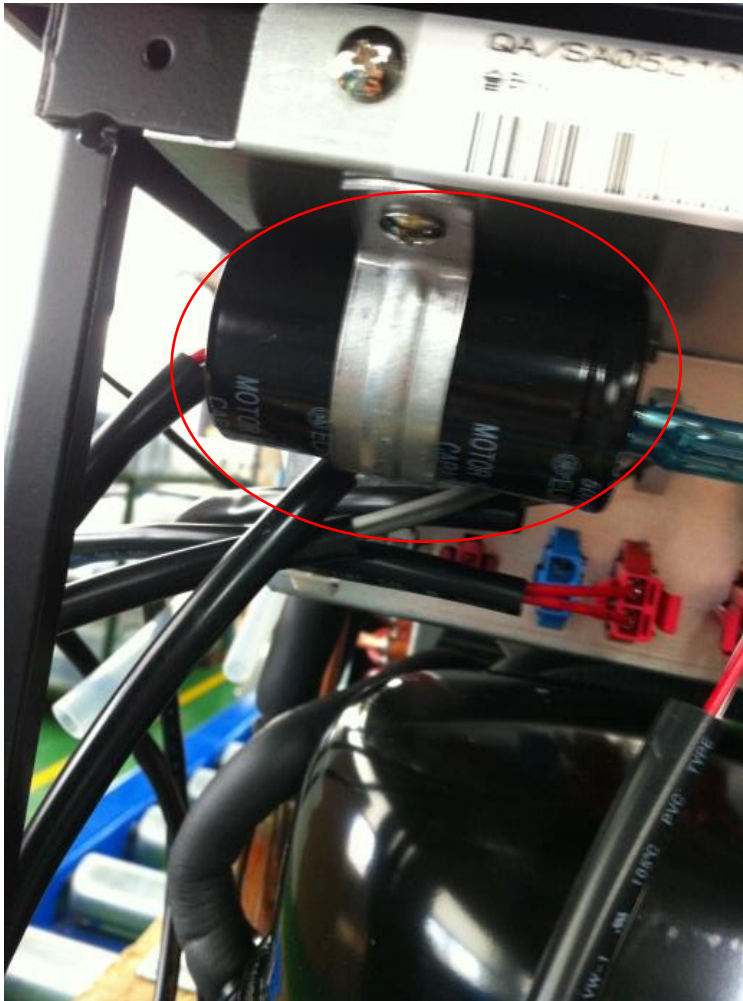
So, it looks like machine doesn't make freeze or cool



When One of bowl doesn't freeze down or get cooled? Compressor is getting hot.

3. Compressor accessories – Start capacitor

**Compressor is energized by start capacitor.
Please check if the capacitor is supplying amps to
compressor**

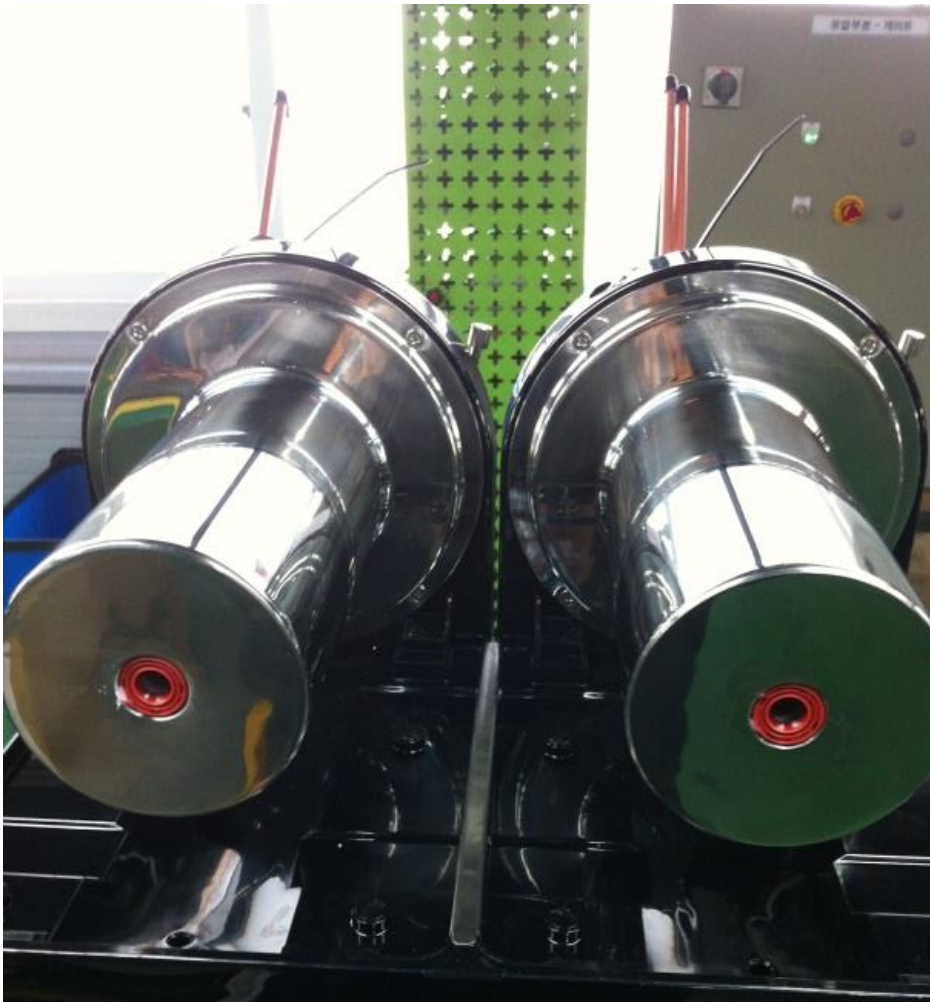


When One of bowl doesn't freeze down or get cooled? Compressor is getting hot.

4. Cylinder check – gas leak

Please remove bowl and check frost on cylinder after three minutes from switch-ON.

Please check if frost is made evenly around cylinder (frost on drums around 360°)



TROUBLESHOOTING

When One of bowl doesn't freeze down or get cooled? Compressor is getting hot.

5. Micro(magnetic) switch check

Please check if geared motor contacts the magnet switch tightly like picture when the bowl is turned on.



In below pictures, geared motor and micro switch are in red circles.

<Picture 1>



<picture 2>



Geared motor

Micro(Magnet)
switch

In below pictures, geared motor and micro switch are in red circles.

If the micro switch's contact is not good,
Swap the micro switch from another cylinder.
If freezing works, it is problem of the micro switch.

Replace the micro switch with a new one.

As a temporary solution, you can bend micro switch a little bit to make it contact to geared motor.
(If micro switch is not stock in.)

END