START-UP TRAINING AND INSTRUCTIONS
HURRICHILL BLAST CHILLERS

INDEX

1. CHECK FOR PROPER INSTALLATION

Perform the checks below to ensure optimal operating conditions and to maximize the service life of the equipment.

☐   Check the integrity of the unit.

☐   Check for proper location.
- Ambient temperature no greater than $90^{o}F$ (to ensure rated performance)
- Must not be installed near heat source
- Must not be installed near grease source
- Must not be installed near vapor source
- Must not be installed in direct sun light
- Must not be installed in closed areas with insufficient air change

☐   Check for proper clearances (reach-in models)
- 1" clearance on the door handle side of the unit
- 2 ½" clearance on the door hinge side of the unit
- 3" clearance on the back of the unit
- Provide enough space in front to allow door opening
- Check for unobstructed air flow at the condensing unit
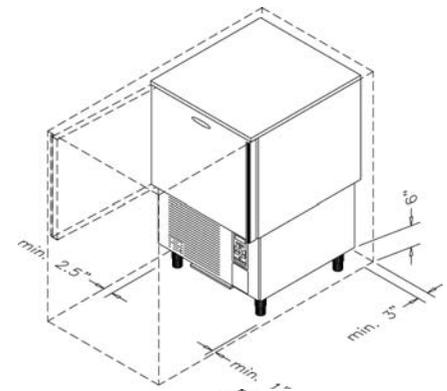
☐   Check for proper clearances (roll-in models)
- 6" clearance on the door handle side of the unit
- 6" clearance on the door hinge side of the unit
- 6" clearance on the back of the unit
- 15" clearance above the unit for service
- Provide enough space in front to allow door opening
- Check for unobstructed air flow at the condensing unit (self-contained models)
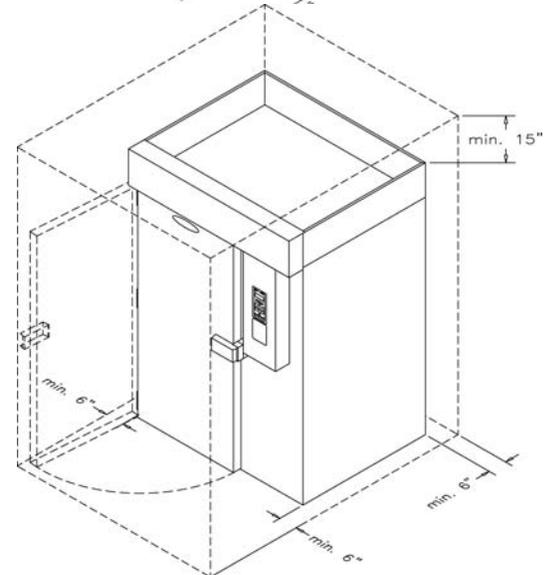
☐   Check to ensure the unit is level.

☐   Ask the customer to confirm that the electrical service is in accordance with the manufacturer nameplate located on unit, see figures below for nameplate locations.

☐   Ask the customer to confirm that the installation of the refrigeration lines was done in accordance with the installation instructions provided by the condensing unit manufacturer (remote refrigeration models only).

☐   Check the installation of the drain pan (reach-in units only) and check for proper drainage (reach-in and roll-in models).
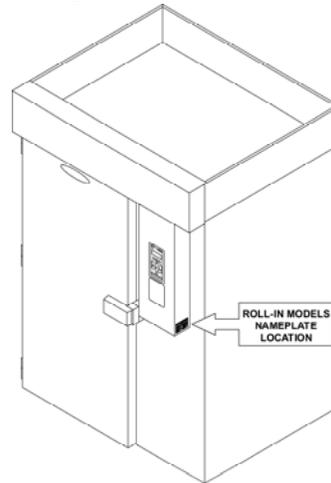
☐   Check the integrity of the wire shelves (if so equipped).

☐   Operate the unit in Hard Chill / Manual Mode for a few minutes to verify temperature pull down.

☐   Verify proper airflow direction.
- Evaporator – front to back
- Condenser – front to back

Note: **American Panel Corporation blast chillers are equipped with a short cycle protection. If the unit is stopped or the door is opened and closed during a chilling cycle more than once, the compressor will not start for 3 to 5 minutes.**

☐   Engage, operate and verify effectiveness of manual defrost cycle.

☐   Verify UV light (if so equipped) is functional.

☐   Verify printer (if so equipped) functions with adequate paper and ribbon.

☐   Verify PC connection (if so equipped) is functional.

☐   Inform the factory if any functional and performance issues were found following the completion of the above tests (see Hurrichill Start-Up Completion Form at the end of these instructions).

2. SPECIFICATIONS AND PERFORMANCE

2.1 Specifications

Familiarize the customer with the specifications of his particular unit, see the chart below.

MODEL NUMBER	TYPE	NUMBER OF PANS	PAN SIZE	MOBILE RACK MAXIMUM SIZE (W X D X H)	CHILLING CAPACITY [LBS]	FREEZING CAPACITY [LBS]
AP3BC30-1	BLAST CHILLER	3	12"X20"X2.5"	N/A	30	N/A
AP3BCF30-1	BLAST CHILLER & SHOCK FREEZER	3	12"X20"X2.5"	N/A	30	18
AP5BCF45-2	BLAST CHILLER & SHOCK FREEZER	5	12"X20"X2.5"	N/A	45	27
AP7BCF70-2-C	BLAST CHILLER & SHOCK FREEZER	7 \ 7	12"X20"X2.5" / 18"X26"	N/A	70	42
AP7BCF70-2	BLAST CHILLER & SHOCK FREEZER	14 \ 7	12"X20"X2.5" / 18"X26"	N/A	70 / 100*	60
AP10BCF100-2	BLAST CHILLER & SHOCK FREEZER	10	12"X20"X2.5"	N/A	100	60
AP12BCF110-3	BLAST CHILLER & SHOCK FREEZER	24 \ 12	12"X20"X2.5" / 18"X26"	N/A	110 / 160*	90
AP20BCF200-3	BLAST CHILLER & SHOCK FREEZER	20 \ 10	12"X20"X2.5" / 18"X26"	26"x31"x72"	200	120
AP20BC200-2	BLAST CHILLER	20 \ 10	12"X20"X2.5" / 18"X26"	26"x31"x72"	200	N/A
AP20BCF200-2	BLAST CHILLER & SHOCK FREEZER	20 \ 10	12"X20"X2.5" / 18"X26"	26"x31"x72"	200	120
AP24BC250-3	BLAST CHILLER	24 \ 12	12"X20"X2.5" / 18"X26"	29"x35"x72"	250	N/A
AP24BC250-3-R	BLAST CHILLER	(1) 202 RATIONAL RACK	12"X20"X2.5"	(1) 202 RATIONAL RACK	250	N/A
AP24BCF300-3	BLAST CHILLER & SHOCK FREEZER	24 \ 12	12"X20"X2.5" / 18"X26"	29"x35"x72"	300	180
AP24BCF300-3-R	BLAST CHILLER & SHOCK FREEZER	(1) 202 RATIONAL RACK	12"X20"X2.5"	(1) 202 RATIONAL RACK	300	180
AP40BC350-3	BLAST CHILLER	40 \ 20	12"X20"X2.5" / 18"X26"	29"x39"x72"	350	N/A
AP40BCF450-3	BLAST CHILLER & SHOCK FREEZER	40 \ 20	12"X20"X2.5" / 18"X26"	29"x39"x72"	450	270
AP80BC700-3	BLAST CHILLER	80 \ 40	12"X20"X2.5" / 18"X26"	2 EA 29"x39"x72"	700	N/A
AP80BCF900-3	BLAST CHILLER & SHOCK FREEZER	80 \ 40	12"X20"X2.5" / 18"X26"	2 EA 29"x39"x72"	900	540
AP120BC1000-3	BLAST CHILLER	120 \ 60	12"X20"X2.5" / 18"X26"	3 EA 29"x39"x72"	1000	N/A
AP120BCF1300-3	BLAST CHILLER & SHOCK FREEZER	120 \ 60	12"X20"X2.5" / 18"X26"	3 EA 29"x39"x72"	1300	780
AP40BC250-12	BLAST CHILLER	40 \ 20	12"X20"X2.5" / 18"X26"	34"x36"x76"	250	N/A
AP40BC250-2-12	BLAST CHILLER	80 \ 40	12"X20"X2.5" / 18"X26"	2 EA 34"x36"x76"	500	N/A
BCIP	BLAST CHILLER	80 \ 40	12"X20"X2.5" / 18"X26"	2 EA 34"x36"x76"	500	N/A
BCCP-1	BLAST CHILLER	40 \ 20	12"X20"X2.5" / 18"X26"	34"x36"x76" (CHECK DOOR CLEARANCE)	250	N/A
BCCP-2	BLAST CHILLER	80 \ 40	12"X20"X2.5" / 18"X26"	2 EA 34"x36"x76" (CHECK DOOR CLEARANCE)	500	N/A

*- the lower number will surpass the FDA requirements, the higher number will meet the FDA requirements.

2.2 Performance

Familiarize the customer with the rated performance and product capacity in Lbs. of the unit.

- Hurrichill blast chiller models are capable of lowering the core temperature of the product (see above chart for chilling capacity in Lbs.) from 160^oF to 38^oF within 90 minutes.
- Hurrichill shock freezers are capable of lowering the core temperature of the product (see above chart for freezing capacity in Lbs.) from 160^oF to 0^oF within 240 minutes.

Note: Each Hurrichill model was designed for a specific product capacity in Lbs. Overloading the unit could significantly reduce the service life of the unit.

3. DESCRIPTION OF CYCLES AND OPERATION MODES

3.1 Automatic Mode

In Automatic Mode, the blast chiller **will read the food temperature via the food probe** and adjust the air temperature accordingly.

Note: When using Automatic Mode it is very important to insert the food probe in the product. The food probe must read the core temperature of the product in order for the unit to work as intended.

3.2 Manual Mode

In Manual Mode, the air will be held at a preset temperature for a **preset amount of time** according to the selected operating cycle (see the explanation for the cycles below).

3.3 Soft Cycle

Use for delicate items such as vegetables, deli items and salad items. Also, use for low fat and low moisture content products such as bakery goods.

- Soft Cycle Auto Mode, Factory Presets – The air temperature will cycle between 28^oF and 35^oF until the food core temperature will reach 40^oF, at this point the blast chiller will switch into holding mode where the air temperature will cycle between 35^oF and 42^oF until the food is removed from the cabinet and/or cycle is stopped by the operator.
- Soft Cycle Manual Mode, Factory Presets – The air temperature will cycle between 28^oF and 35^oF for 1.5 hours. After 1.5 hours the unit will switch into holding mode where the air temperature will cycle between 35^oF and 42^oF until the food is removed from the cabinet and/or cycle is stopped by the operator.

3.4 Hard Cycle

Use for all foods. Some freezing on the food surface may occur, especially with thicker products; if this is not acceptable use Soft Cycle (see 3.3)

- Hard Cycle Auto Mode, Factory Presets – The air temperature will cycle between 0^oF and 10^oF until the food core temperature will reach 60^oF (first part of the cycle). After the food core temperature reaches 60^oF the air temperature inside the unit will cycle between 28^oF and 35^oF (second part of the cycle) until the food core temperature will reach 40^oF. At this point the blast chiller will switch into holding mode where the air temperature will cycle between 35^oF and 42^oF until the food is removed from the cabinet and/or cycle is stopped by the operator.
- Hard Cycle Manual Mode, Factory Presets – The air temperature will cycle between 0^oF and 10^oF for one hour (first part of the cycle). After one hour the air temperature inside the unit will cycle between 28^oF and 35^oF for another hour (second part of the cycle). At this point the blast chiller will switch into holding mode where the air temperature will cycle between 35^oF and 42^oF until the food is removed from the cabinet and/or cycle is stopped by the operator.

3.5   Shock Freeze Cycle

Use for all freezing needs. When using the Hurrichill Shock Freezing Cycle the ice crystals that form within the product are very small, the quality and the texture of the product is preserved. For that reason, the Shock Freeze Cycle is suitable even for delicate products such as sushi meat and prime meat cuts. Shock Freeze Cycle will give excellent results when used in the process of Ice Cream and Gelato hardening, it will give a smooth texture to the product.

- Shock Freeze Cycle Auto Mode, Factory Presets – The air temperature will cycle between -25°F and -15°F until the food core temperature will reach 0°F, at this point the blast chiller will switch into holding mode where the air temperature will cycle between -4°F and 3°F until the food is removed from the cabinet and/or cycle is stopped by the operator.
- Shock Freeze Cycle Manual Mode, Factory Presets – The air temperature will cycle between -25°F and -15°F for 4 hours. After 4 hours the unit will switch into holding mode where the air temperature will cycle between -4°F and 3°F until the food is removed from the cabinet and/or cycle is stopped by the operator.

Important!

At the end of each blast chilling cycle the unit will switch into holding mode to maintain the food at a specific temperature; however, the blast chiller was not designed to be a refrigerator/holding cabinet. Do not allow the blast chiller to function in holding mode for extended periods of time.

Occasional overnight holding is allowed.

3.6   Defrost Cycle

Use to defrost the evaporator coil. The defrost cycle must be manually engaged (see controller operation below). Defrost the unit once a day or as needed. Ice build-up can be observed as looking thru the fan grill at the evaporator coil. The factory preset for Defrost Cycle is 15 minutes on models with air type defrost (most models). AP40BC250(-2)-12, BCCP-1, BCCP-2, and BCIP models have electric heater defrost and the factory preset for the Defrost Cycle on these models is 30 minutes.

3.7   Thaw Cycle (if so equipped)

Use to thaw frozen products. Units equipped with the Thaw feature will be delivered with a special thaw probe, a cordless drill and a sanitary drill bit. Use the cordless drill and sanitary drill bit to probe the frozen product.

- Thaw Cycle Automatic Mode, Factory Presets – The air temperature will cycle between 42°F and 50°F until the food temperature, as recorded by the thaw probe, will reach 32°F; at this point the blast chiller will switch into holding mode where the air temperature will cycle between 35°F and 42°F until the food is removed from the cabinet and/or cycle is stopped by the operator.
- Thaw Cycle Manual Mode, Factory Presets – The air temperature will cycle between 42°F and 50°F for a preset amount of time, set by the operator at the time of starting the cycle. After the cycle time expires, the unit will switch into holding mode where the air temperature will cycle between 35°F and 42°F until the food is removed from the cabinet and/or cycle is stopped by the operator.

Note: When probing for thaw cycle, use the drill bit to provide a hole in the frozen product. Make sure the thaw probe is fully inserted into the product but not more than 1" from the surface.

3.8   UV Cycle (if so equipped)

The UV light (germicidal light) inhibits the bacterial formation and multiplication. Use the UV Cycle to sterilize the cabinet after the daily cleaning. UV light must not be used as a substitute for cleaning. The factory preset time for the UV light is 30 minutes.

3.9   Heated Probe (shock freezer models only)

Use the Heated Probe feature prior to extracting the temperature probe from the frozen product. Gentle heat will be applied to the food probe for 5 seconds to facilitate the extraction of the probe. The Heated Probe will run only if the temperature at the food probe is below 30°F. Repeat the heated probe cycle if needed.

FACTORY PRESETS AUTOMATIC MODE – QUICK REFERENCE CHART								
SETTING CYCLE	LOW AIR PART 1	HIGH AIR PART 1	BREAKING TEMP.	LOW AIR PART 2	HIGH AIR PART 2	END FOOD TEMP.	LOW AIR HOLDING	HIGH AIR HOLDING
SOFT	28°F	35°F	NA	NA	NA	40°F	35°F	42°F
HARD (CHILLERS ONLY)	10°F	20°F	60°F	28°F	35°F	40°F	35°F	42°F
HARD (CHILLERS / FREEZERS)	0°F	10°F	60°F	28°F	35°F	40°F	35°F	42°F
SHOCK FREEZE	-25°F	-15°F	NA	NA	NA	0°F	-4°F	3°F
THAW	42°F	50°F	NA	NA	NA	32°F	35°F	42°F

FACTORY PRESETS MANUAL MODE – QUICK REFERENCE CHART								
SETTING CYCLE	LOW AIR PART 1	HIGH AIR PART 1	TIME PART 1	LOW AIR PART 2	HIGH AIR PART 2	TIME PART 2	LOW AIR HOLDING	HIGH AIR HOLDING
SOFT	28°F	35°F	NA	NA	NA	90 MIN	35°F	42°F
HARD (CHILLERS ONLY)	10°F	20°F	60 MIN	28°F	35°F	60 MIN	35°F	42°F
HARD (CHILLERS / FREEZERS)	0°F	10°F	60 MIN	28°F	35°F	60 MIN	35°F	42°F
SHOCK FREEZE	-25°F	-15°F	NA	NA	NA	240 MIN	-4°F	3°F
THAW	42°F	50°F	NA	NA	NA	SET AT START	35°F	42°F

4. CONTROLLER OPERATION

4.1 Turn the Unit On.

From off mode (display is reading "OFF") press [power icon] . The unit is on and the display is prompting the operator to choose an operating cycle.

4.2 Engage the Soft Cycle in Automatic Mode
From the cycle prompt (see instruction 4.1):

- press [SOFT icon] to choose the Soft Cycle, the display will prompt the operator to choose the operating mode.

- press [A icon] to choose the Automatic Mode, the display will prompt the operator to press start.

- press [O icon] to start the cycle.

4.3 Engage the Hard Cycle in Automatic Mode
From the cycle prompt (see instruction 4.1):

- press [HARD icon] to choose the Hard Cycle, the display will prompt the operator to choose the operating mode.

- press [A icon] to choose the Automatic Mode, the display will prompt the operator to press start.

- press [O icon] to start the cycle.

4.4 Engage the Shock Freeze Cycle in Automatic Mode (shock freezer models only)
From the cycle prompt (see instruction 4.1):

- press [SHOCK icon] to choose the Shock Freeze Cycle, the display will prompt the operator to choose the operating mode.

- press [A icon] to choose the Automatic Mode, the display will prompt the operator to press start.

- press [O icon] to start the cycle.

4.5 Engage the Soft Cycle in Manual Mode
From the cycle prompt (see instruction 4.1):

- press [SOFT icon] to choose the Soft Cycle, the display will prompt the operator to choose the operating mode.

- press [M icon] to choose the Manual Mode, the display will prompt the operator to press start.

- press ⬤ to start the cycle.

4.6   Engage the Hard Cycle in Manual Mode
From the cycle prompt (see instruction 4.1):

- press **HARD** to choose the Hard Cycle, the display will prompt the operator to choose the operating mode.

- press **M** to choose the Manual Mode, the display will prompt the operator to press start.

- press ⬤ to start the cycle.

4.7   Engage the Shock Freeze Cycle in Manual Mode (shock freezer models only)
From the cycle prompt (see instruction 4.1):

- press **SHOCK** to choose the Shock Freeze Cycle, the display will prompt the operator to choose the operating mode.

- press **M** to choose the Manual Mode, the display will prompt the operator to press start.

- press ⬤ to start the cycle.

4.8   Engage the UV Light Cycle **(if so equipped)**
From the cycle prompt (see instruction 4.1):

- press ☀ to choose the UV Light Cycle, the display will read "READY TO START".

- press ⬤ to start the cycle.

4.9   Engage the Defrost Cycle (air type defrost models only, see 3.6)
From the cycle prompt (see instruction 4.1):

- Press 💧 to choose the Defrost Cycle, the display will read "OPEN DOOR!".

- Open the door and press ⬤ to start the cycle.

4.10   Engage the Defrost Cycle (electric heater type defrost)
From the cycle prompt (see instruction 4.1):

- Press 💧 to choose the Defrost Cycle.

- Press ⬤ to start the cycle.

4.11   Engage the Heated Probe **(if so equipped)**
From the cycle prompt (see instruction 4.1):

- Press 🗌 to heat the food probe

- Carefully extract the food probe from the frozen product.

4.12   Print **the HACCP Data (if so equipped)**
From the OFF mode:

- Press to print the HACCP data. The display will read the remaining storage capacity in number of events.

Examples:

The display reads "READINGS LEFT   120" - 120 additional events could be recorded on the internal memory.

The display reads "READINGS LEFT   0" – there is no available internal memory; the new recordings will overwrite the old ones.

- Press to print the events.

4.13   Engage the Thaw Cycle in Automatic Mode (if so equipped)
From the cycle prompt (see instruction 4.1):

- Press to choose the Thaw Cycle.

- press to choose the Automatic Mode, the display will prompt the operator to press start.

- Press to start the cycle.

4.14   Engage the Thaw Cycle in Manual Mode (if so equipped)
From the cycle prompt (see instruction 4.1):

- Press to choose the Thaw Cycle.

- Press to choose the Manual Mode, the display will prompt the operator to set the cycle time.
- Scroll up or down to set the desired cycle time.

- Press to start the cycle.

5. CUSTOMIZING THE CYCLES

Hurrichill blast chilling / shock freezing cycles have been designed to deliver optimum chilling / freezing performance for most food products. If need be, all the cycles can be customized.
Consult the User's Manual and contact American Panel Corporation before attempting to customize any cycle.

Note: Serious damages could occur to the unit due to faulty settings.

6. PANNING, LOADING AND PROBING

6.1 Panning and Loading
Follow the methods below for faster cooling, freezing and thawing:
- Place the food in shallow pans.
- Do not use food pans deeper than 2 ½" and do not fill the pan with more than 2" of product.
- Separate the food in smaller or thinner portions.
- Do not cover the containers unless danger of overhead contamination.
- Loosely cover the containers if necessary. Allow the cover material (aluminum foil…) to touch the surface of the food.
- Arrange the pans for optimum air circulation within the cabinet.
- Know the capacity of the unit. Do not overload the unit.

6.2 Probing (for chilling / freezing cycles)
Follow the methods below to ensure correct probing of the product:
- Insert the food probe into the thickest part of the product.
- The tip of the food probe will have to be located at the core of the food.
- Always place the available food probe in the hardest to cool product.
- It is a good practice to restart the cycle every time food is added.
- Clean and sanitize the food probe after each use.

6.3 Probing (for thaw cycle)
Follow the methods below to ensure correct probing of the product:
- Use the provided drill and drill bit to drill a hole into the frozen product.
- Fully insert the thaw probe into the frozen product. Do not insert the thaw probe more than 1" from the surface of the product.

7. MAINTENANCE

7.1 Daily Maintenance
- Defrost the unit daily or as needed (see instructions 3.6, 4.9 and 4.10).
- Wipe clean the interior and the exterior of the unit using a solution of mild soap and water.
- Wipe clean the door gasket.
- Engage the UV light cycle.
- Empty and clean the drain pan.
- Completely dry the cabinet every night. Leave the door slightly open overnight or when not in use.

Important!

Do not use any corrosive chemicals to clean the unit!

Do not use any abrasive materials to clean the unit!

Do not spray water on the unit!

7.2 Quarterly Maintenance

The quarterly maintenance should be done by a service technician or by trained maintenance personnel.

- Inspect door hinge for proper operation.
- Inspect door gasket for proper seal.
- Inspect the drain line for proper flow.
- Use vacuum and brush to clean the condenser coil.
- Clean the evaporator coil.

Important!

Do not use water jet to clean the condenser coil!

Do not use any sharp or abrasive materials to clean the coils!

When cleaning the evaporator use only the cleaning agent listed below and follow the directions on the container for proper mixing and cleaning.

Cleaning Agent	Vendor	Part Number
Enviro-Coil Concentrate	**Home Depot Supply** **http://hdsupplysolutions.com**	**H-ECO1**
Enviro-Coil Concentrate	**Hydro-Balance Corporation** **Tel. 972 394-9422**	**H-ECO1**

7.3 Annual Maintenance

A comprehensive annual maintenance schedule is highly recommended. A Preventive Maintenance Checklist is provided with the unit; follow the instructions in the list.

8. START-UP COMPLETION FORM

Fill the Start-Up Completion Form attached to these instructions and Fax or Mail to American Panel Corporation.

AMERICAN PANEL CORPORATION
5800 S.E. 78TH Street
Ocala, Florida 34472
Tel. (800) 327-3015
Fax. (352) 245-0726

HURRICHILL START-UP COMPLETION FORM

START-UP DATE: _____

START-UP LOCATION: _____

HURRICHILL MODEL: _____

HURRICHILL SERIAL NUMBER: _____

HURRICHILL REPRESENTATIVE: _____

CUSTOMER REPRESENTATIVE: _____

FACILITY TYPE:

☐ RESTAURANT   ☐ SCHOOL KITCHEN   ☐ HOSPITAL KITCHEN

☐ FOOD PROCESSING FACILITY   ☐ RETAIL - DELI KITCHEN   ☐ CATERING

☐ CASINO   ☐ CONVENTION CENTER   ☐ MILITARY CANTINA

☐ CORRECTIONAL CANTINA   ☐ OTHER_____

MARK BELOW THE DISCUSSED TOPICS:

☐   CHECK FOR PROPER INSTALLATION

☐   SPECIFICATIONS AND PERFORMANCE

☐   DESCRIPTION OF CYCLES AND OPERATION MODES

☐   CONTROLLER OPERATION

☐   CUSTOMIZING THE CYCLES

☐   PANNING, LOADING AND PROBING

☐   MAINTENANCE

COMMENTS:

_____

_____

_____

_____