



L5 AND L12 SHOP ROASTER



INSTALLATION, OPERATION AND MAINTENANCE MANUAL



Probat Burns, Inc. ♦ 5334 Republic Drive
Memphis, TN 38118
Phone: (901) 363-5331 ♦ Fax: (901) 794-9679
info@probatburns.com

May 1994

PROBAT

MANUAL

L5/L12 May 1994

SHOP ROASTERS

PROBAT Inc.
4127 Willow Lake Blvd.
Memphis, TN 38118
Tel.: (901) 363-5331
Fax: (901) 794-9679

CAUTIONS:

Post in a prominent location the instructions to be followed if user smells gas. Obtain information from local gas supplier.

**FOR YOUR SAFETY
DO NOT STORE OR USE GASOLINE OR OTHER
FLAMMABLE VAPORS OR LIQUIDS IN THE VICIN-
ITY OF THIS OR ANY OTHER APPLIANCE.**

Electrical Grounding Instructions

For 110 - 120V. 1PH. 60 Hz.

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

(For voltage over 120V. see wiring diagram).

Keep roaster area free and clear of combustibles.

Do not obstruct flow of combustion and ventilation air.

Retain this manual for future reference.

The electrical diagram for the roaster is inside the door of the electrical box.

The oven and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.45 kPa).

The oven must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.45 kPa).

INTRODUCTION

WELCOME TO THE WORLD OF COFFEE ROASTING!

Before installing and operating your roaster, read this operating manual thoroughly. If there is anything not understood, or, if there is a problem at any time, please contact PROBAT Inc. (901-363-5331). PROBAT will be glad to assist you.

Be aware of the following:

- **The machine must be operated only by trained personnel.**
- **Be familiar with safety procedures (Chapter 6) before operating the roaster.**
- **Never leave the roaster unattended during operation!**

Purchasers are encouraged to send key personnel for training prior to installation and operation. This service is provided at no charge to the purchaser.

We also recommend that a PROBAT technician services and inspects your roaster once a year.

A service visit consists of:

- greasing/lubrication
- adjusting, if necessary
- cleaning

Model _____ Serial No. _____

CHAPTER 1 - The L5/L12 Roasters

CHAPTER 2 - Installation & Start Up

2.1 Placement & Assembly

2.2 Connections: gas, electricity, exhaust

2.3 Start Up

CHAPTER 3 - Operation

CHAPTER 4 - Maintenance

4.1 Cleaning & Lubrication

4.2 Adjusting

CHAPTER 5 - Troubleshooting

CHAPTER 6 - Safety

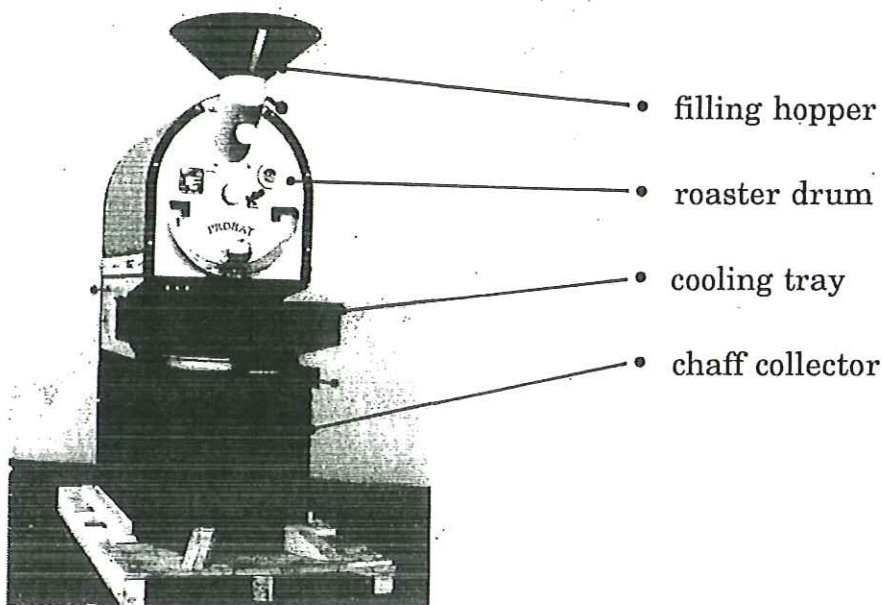
APPENDIX Technical Specifications

Spare Parts

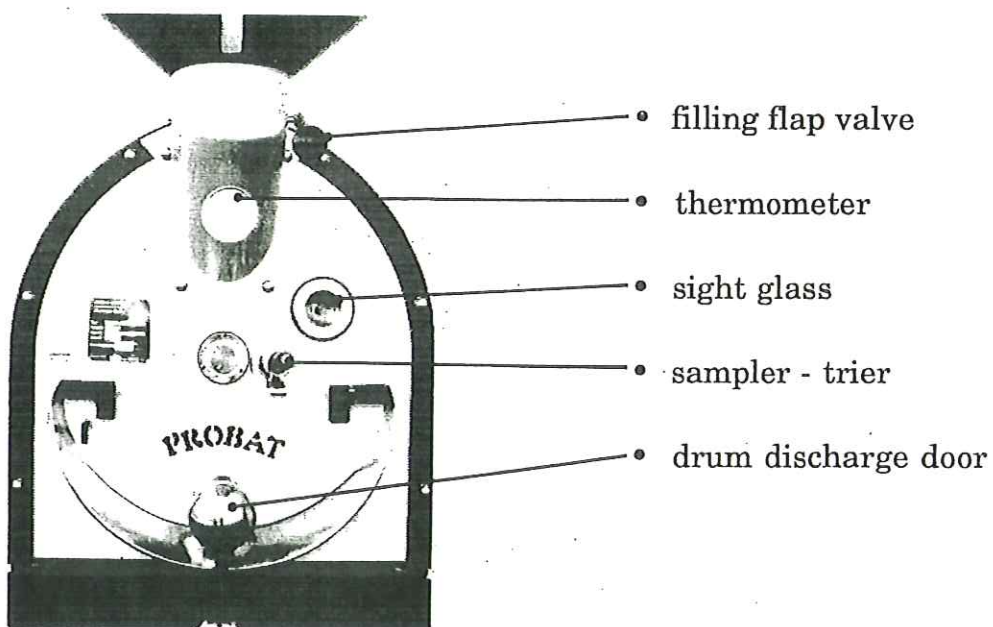
CHAPTER 1

The Roaster

(the following pictures are referred to throughout the manual and refer to both, the L5 and L12 models).

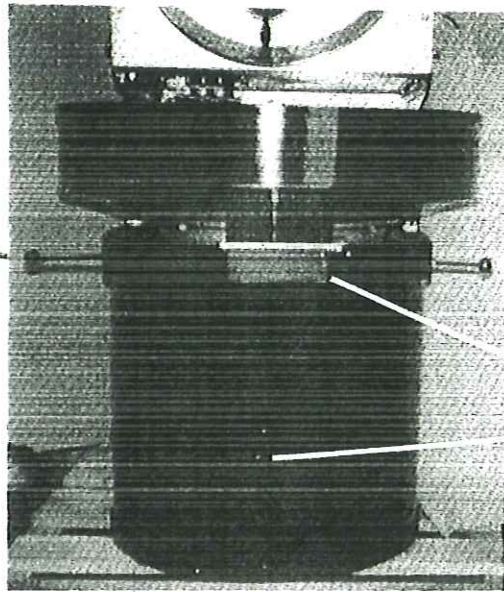


Picture # 1



Picture #2

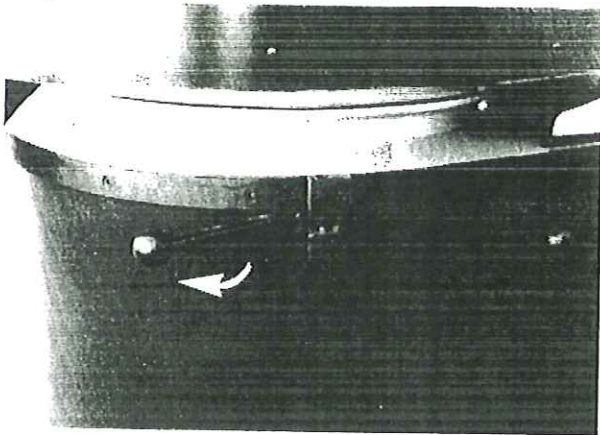
stir arm
engagement



- handle for cooling
- cooler discharge flap
- door chaff collector

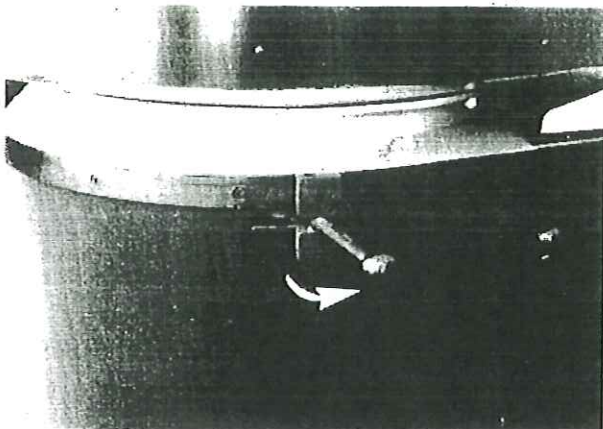
Picture #3

- cooling off

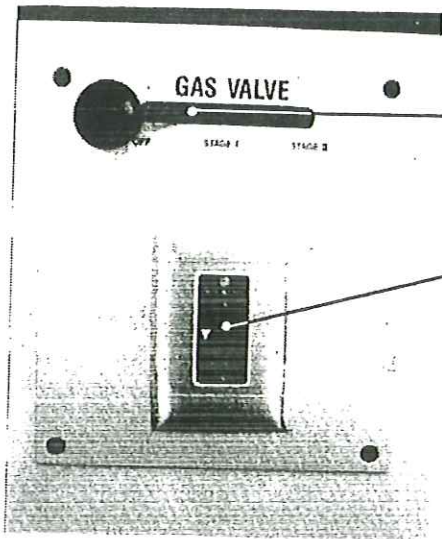


Picture #4

- cooling on

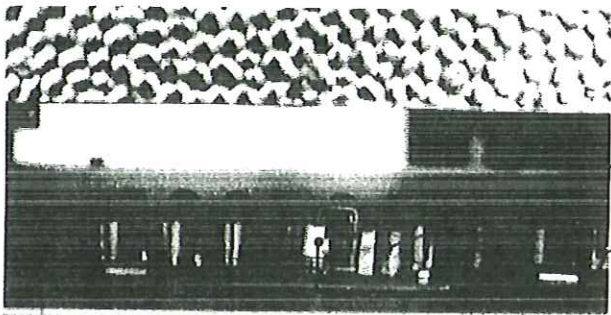


Picture #5



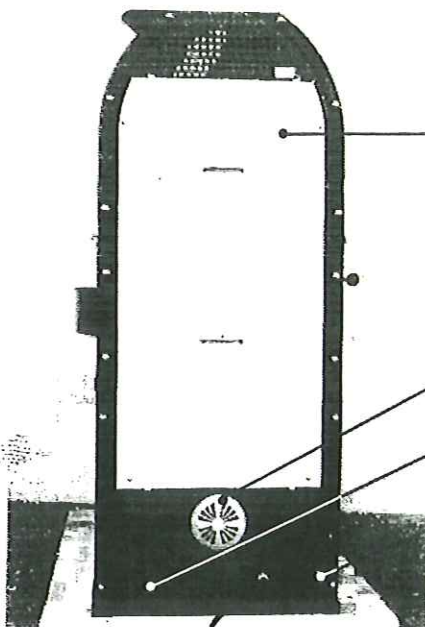
- gas handle
- on/off switch

Picture #6



- pilot
- burners
- flame sensor

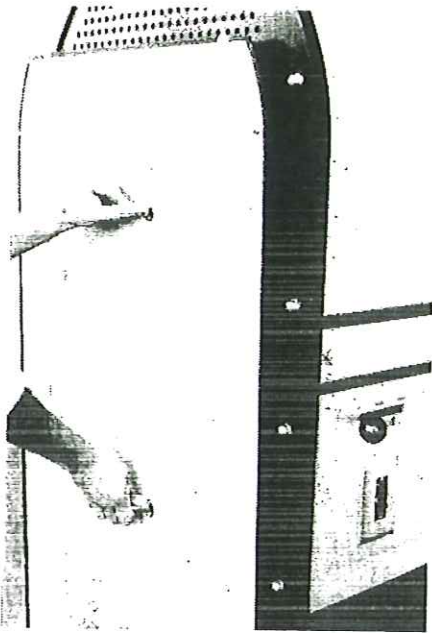
Picture #7



- back door
- motor
- connection exhaust
- connection gas

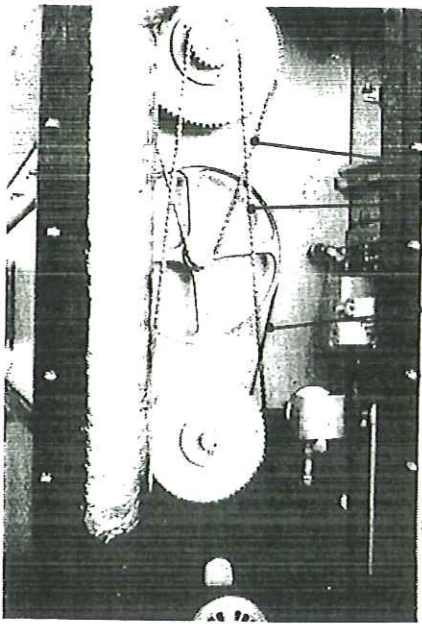
Picture #8

The L12 Roaster



- lift to open

Picture #9



- drive chain
- drive belt

Picture #10

CHAPTER 2

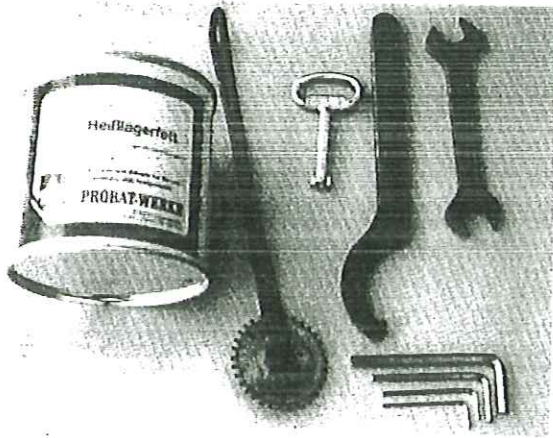
Installation & Start Up

2.1 Placement & Assembly

Roaster weight and dimensions are shown on the appendix page.
The roaster may be moved into place with a suitable fork lift or pallet jack.

Once the roaster is in the area in which it will be used, remove it from the shipping crate.

After removing the roaster from the crate, check for any shipping damage. Also check to see that the following PROBAT supplied items are included:



- 1) thermometer (not shown)
- 1) sampler-trier (not shown)
- 1) key to open electric door
- 1) hook spanner wrench
- 4) allen wrenches (1.5, 2, 2.5, 3, 4, 5, 6, 8mm)
- 2) open end wrenches (10 - 13 mm, 17 - 19 mm)
- 1) cooling screen cleaner
- 1) can high temperature bearing grease

Picture #11

The roaster is best installed on a concrete, stone, or brick floor. The bottom of the roaster can exceed 200 degrees F in normal operation and may reach higher temperatures if a fire should occur in the chaff collector. Do not place on wood or on floors which are not of fire resistant materials, unless a metal sheet is used under roaster. Refer to local codes!

The L5 roaster weighs approximately 1000 pounds, the L12 roaster weighs approximately 1400 lbs. The floor must be able to support this weight plus the weight of the operator, green coffee, and other equipment or personnel.

In placing the roaster, allow a minimum of 3 feet of clearance from sides and back of roaster for maintenance access. The minimum clearance to combustible surfaces is 3 feet.

2.2 Connections

Because codes and regulations vary from place to place, before proceeding with installation check with your local building inspector to insure that your installation will meet all local, state and federal codes and regulations.

- Electric

Electrical connections must be properly grounded and made per local codes. The roaster takes 12 amps at 110 volts or 6 amps at 220 volts. To determine the voltage of your roaster, check the specification plate on the side of the machine. In the absence of local codes use National Electrical code, ANSI/NFPA 70-1990.

- Gas

The gas supply also must be hooked up in accordance with local codes. Gas requirements are described in the appendix. Gas connection, see Pic. 6

- Exhaust

It is very important that the exhaust duct conforms to the following specification. Improper exhaust-ducts increase roasting time and influence roasting performance. Ask PROBAT for additional information, if necessary.

PROBAT does not supply the exhaust duct-flue stack going from the exhaust system to the chimney. When installed this stack must also conform to local codes, or in the absence of local codes, with the national fuel gas code ANSI Z223.1-1988.

Note that the roaster fan is designed for an exhaust duct of a constant diameter of at least six inches and a length of no more than 25 feet. Note also that there should be no more than 2 bends exceeding 90° in the exhaust ducting, and any near-horizontal ducting should have an upward inclination of at least 45°. Other specifications are described in the appendix.

Also, during installation, it is important to include means to periodically clean out the duct with chimney brushes (See Chapter 4). Accordingly, either “clean outs” or some means of disassembling the duct work near the roaster must be provided. Also if the system includes a longer duct system, additional clean-out points should be provided.

Note: Exhaust duct should be provided for a positive pressure system of at least double wall and provide proper clearance. (See pg. 30-31)

SUMMARY:

- Exhaust duct diameter: 6–8”
- Length no more than 25 feet
- No more than two bends of 90° or more
- Avoid (near -) horizontal ducting

2.3 Start Up

- Review the operating procedures in Chapter 3.
- Review the safety procedures in Chapter 6.
- Observe the following start up procedures:

PROBAT encourages new owners to send an operator to the PROBAT facility in Burlingame, California, for training. PROBAT will provide training in Burlingame at no cost to the owner.

When installation is complete you are ready to start roasting!

1. Use full-size batches of low-grade coffee for the first several roasts.
2. When the machine is switched on (step 2 in the following operating procedures), a fast clicking or buzzing sound will be heard as the electric ignition ignites the pilot. The pilot may not light if air is being purged from the newly-connected gas train.

If the ignition stops clicking before the pilot ignites, switch off the roaster and wait one minute before trying again. It may take several tries before the pilot lights. With some exhaust vent systems, the gas burner will ignite easier with the discharge door of the roaster left in its open position.

3. For consistent roasting, preheat the roaster to 400°-420°F for 30 minutes before your first roast.
4. No special break-in procedures are necessary.

Installation & Start Up

5. If a rubbing sound is heard as the machine heats up, this is caused when the drum expands and rubs the front face of the roaster. It will not cause any immediate damage, but it must be adjusted to prevent this rubbing. See Chapter 4, 4.2, Adjustments. It may be necessary to make this adjustment several times during the first few days of operation.

Roasting times of nine minutes or less, with full loads, may indicate an over-heating problem. Do not continue to roast. Call PROBAT immediately.

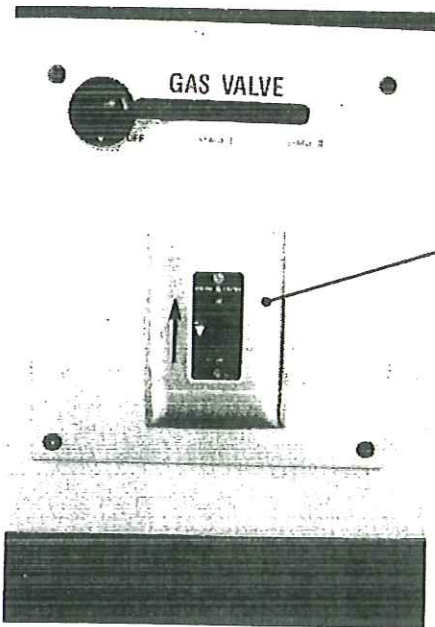
CHAPTER 3

Operation

Note: Do not switch on the cooler during roasting.

Step 1:

- Switch cooler off - see picture 4



Step 2:

- Switch roaster on:
 - drum rotates
 - exhaust fan is on
 - fast clicking or buzzing sound will be heard as pilot ignites

Picture #12

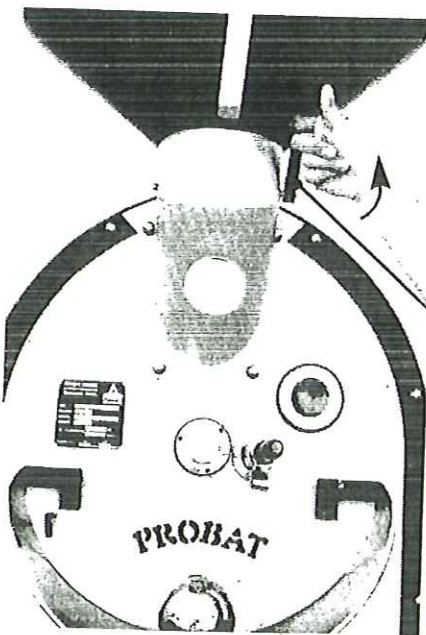


- Check, by looking through hole if pilot ignites

Picture #13

Step 3:

- gas full on (Stage II)
- burners ignite
- note: on some exhaust systems, it helps to switch cooling on for quick ignition of burners. After ignition, turn cooler off. See Picture 5



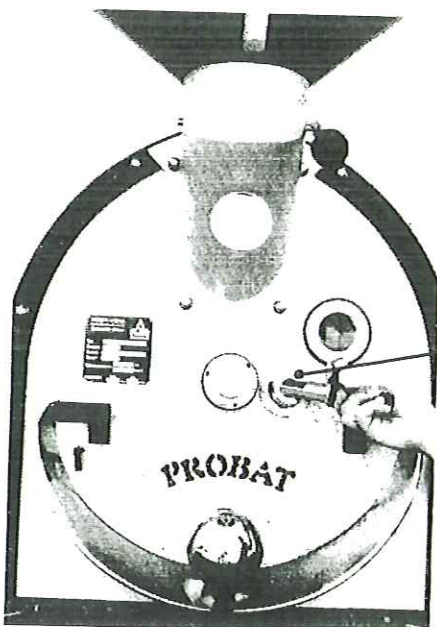
Picture #14

Step 4:

- fill hopper with green coffee
- note: L5 - 5 - 11 lbs.
L12 - 10 - 26 lbs.
- allow temperature on thermometer to reach 420° F.

Step 5:

- open feed valve
- green beans flow into roaster drum

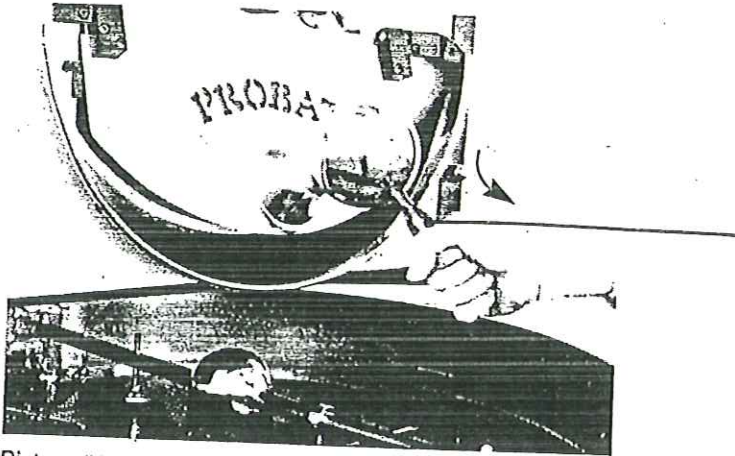


Picture #15

Step 6: Roasting

- sampling with sampler
- check color through sight glass

Operation



Picture #16

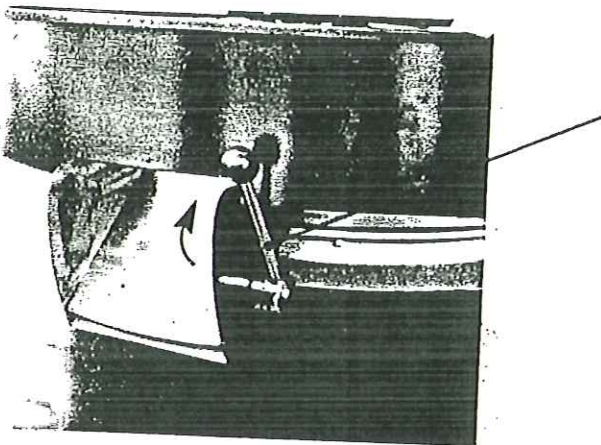
Step 7: Cooling

- switch gas off
- switch cooling on, See Picture 5
- switch stir arm on
- open discharge door drum about 2-3 inches.
 - coffee flows into cooling tray
- close discharge door
- let coffee cool

DO NOT ROAST AND COOL COFFEE AT THE SAME TIME.

Step 8: After Cooling

- switch cooling off
 - roaster ready for next batch
- open discharge door cooling tray
 - roasted coffee is discharged into receiving container
- close discharge door cooling tray
- switch stir arm off
 - cooling arm stops stirring



Picture #17

If you continue roasting, repeat from Step 3.

If roasting is finished, leave discharge door of the drum shut, turn cooling off and let the drum turn until the temperature is approximately 120° F. Then switch roaster off.

Roasting Control

- Keep temperature constant, between 400°-470° F
- Keep cooling off (see Picture 4) during roasting

Operation

CHAPTER 4

Maintenance

- FOLLOW THESE PROCEDURES ONLY WHEN THE ROASTER HAS BEEN UNPLUGGED FROM THE ELECTRICAL SUPPLY.

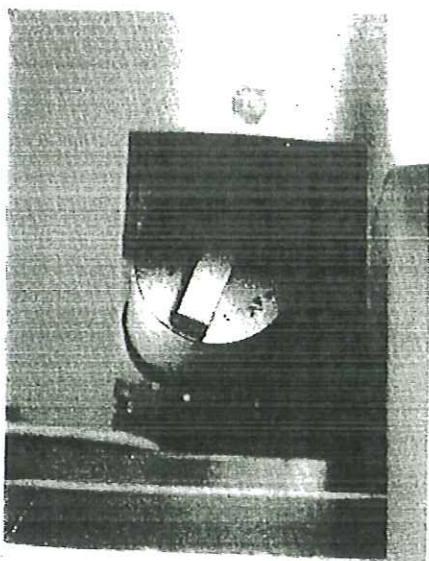
4.1 Cleaning & Lubrication

Failure to perform regular cleaning can result in a fire in the roaster.

Cleaning is very important in keeping your roaster in top condition. Your cleaning schedule may vary depending on the type of bean roasted and the darkness of the roast, i.e., dark or oily roasts necessitate more frequent cleaning than light roasts. You must adjust the cleaning schedule to fit your conditions each year.

Lubrication is very important for avoiding damage to your roaster

Every day:



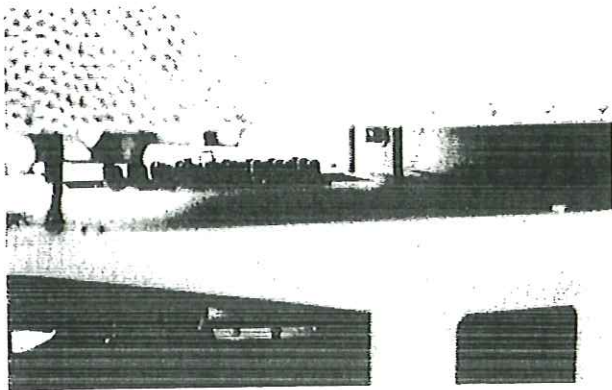
Picture #18

Chaff Collector

- Remove door of the chaff collector
- Clean with vacuum cleaner

Maintenance

Regular cleaning of the chaff collector is extremely important in order to keep it efficient at removing the chaff from the exhaust air before it enters the air duct and the chimney. Regular cleaning will minimize the build-up on the walls of the exhaust duct and the chimney. Without regular cleaning, the chaff build-up can cause degradation of roaster performance and increase the possibility of fire.

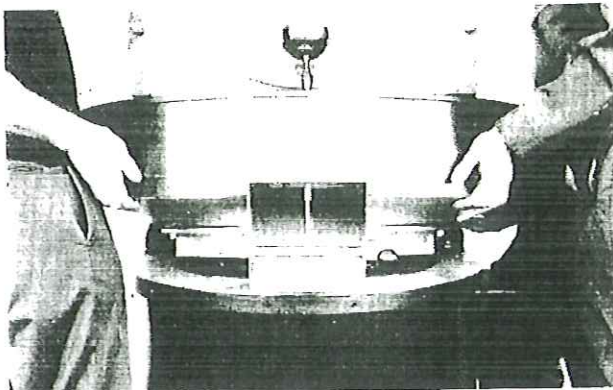


Picture #19

Burners Chamber

- Remove covers at left and right side of the burners chamber. Clean with vacuum cleaner. (also under the front and the rear of the drum)

Every week:



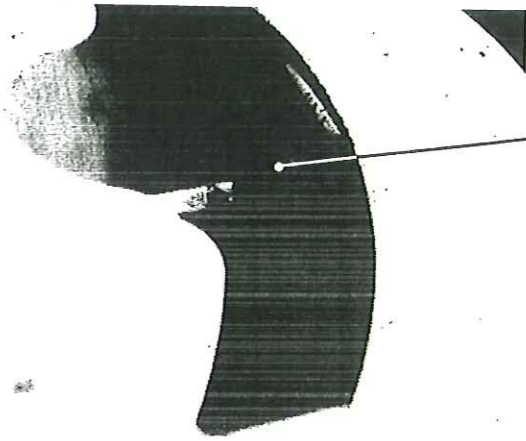
Picture #20

Cooling Tray

- remove cooling tray, clean inner part of tray

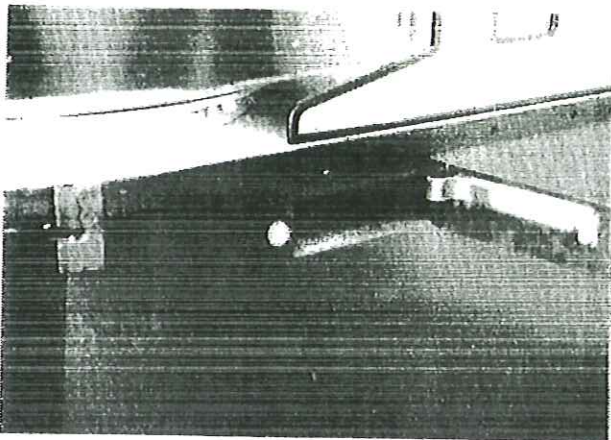
Note: to remove tray, switch cooling on.

See Picture 5. This will allow the drive gear to clear slides beneath the cooling tray



Picture #21

- grease front bearing and gear at shaft with high temperature grease.
- clean both sides of key way shaft that gear moves on with WD 40 penetrating oil, then lube with a light oil such as 3 in 1 oil.



Picture #22

Every month:

- open flap right side, clean with vacuum cleaner.
- open flap left side, clean with vacuum cleaner.
- check to be sure air gaps clear around cooler air receiving cone.



Picture #23

Front Drum Bearing

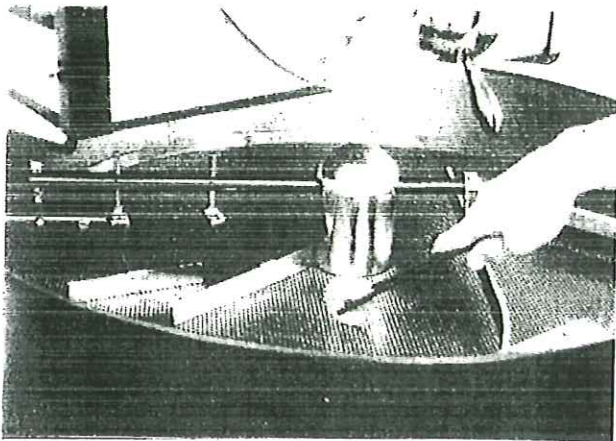
- unscrew cover
- grease with PROBAT grease



Picture # 24

Screen

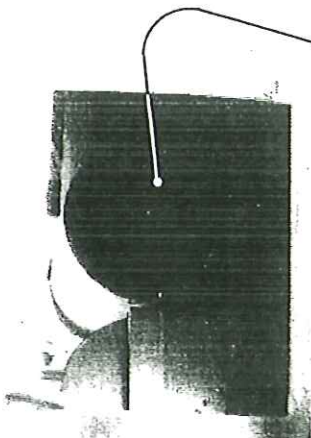
- use cooling screen cleaner



Picture # 24A

Cooler stirrer arm bearing

- use lubrication oil



Picture #25

Exhaust Ductwork

- remove cover, clean with vacuum cleaner
- clean exhaust pipe & pipe connections in rear of roaster

The exhaust ductwork should be inspected once a month. Cleaning the chaff collector regularly, as described above, will simplify the cleaning of the ductwork. Unplug the roaster from electrical supply first!

To clean the ductwork, remove the cleanouts or the pipe, depending upon your system configuration, and, using chimney brushes, clean the ductwork. Also, while cleaning the exhaust system, remove the access door inside the chaff collection chamber and inspect the roaster fan. If the fan requires cleaning, it is best accomplished by removing the rear angles and plate, unbolt face plate of fan (with motor attached), scrape clean and reinstall. Also check and clean if necessary the duct from front of roaster filling hopper to chaff collector. This duct is over the top of drum and continues through pipe shown on left side of picture #10. This pipe is removed for cleaning, if necessary.

Every 6 months

Lubricate or grease front and rear bearing on horizontal stir arm drive shaft.

Every year:

Cleaning and inspection of the burners, pilot and flame sensor by a PROBAT technician.

4.2 Adjustments



Picture # 26

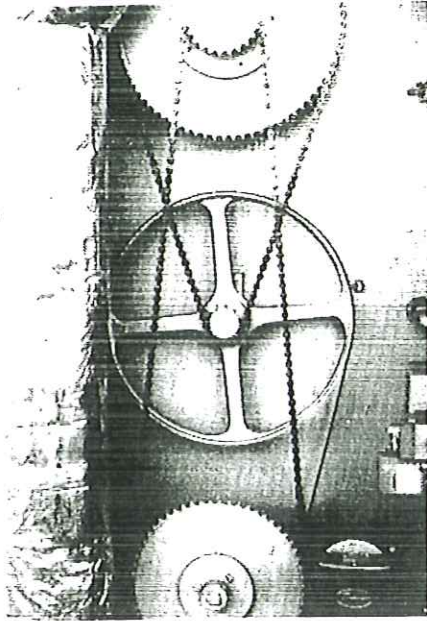
Drum Clearance Adjustment

Drum clearance can be adjusted from the front of the roaster by screwing the front bearing housing in or out. If the drum is too tight, a loud rubbing sound will be heard. If the drum is too loose, small or broken beans may fall through and collect under the drum. To minimize broken bean deposit, adjust as follows:

1. Loosen three set screws, using Allen wrench.
2. Use spanner wrench to turn bearing housing.
3. Retighten set screws.

Turn clockwise for more clearance and counter-clockwise for less clearance.

Note: clearance gets tighter when roaster is hot.



Picture # 27

Drive Belt Adjustment

The drive belt is the flat rubber belt inside of the back door of the roaster. A properly adjusted belt can be deflected with a light force but always has some tension in it. Adjust as follows:

1. Remove belt from pulley.
2. Loosen nut located behind cooler.
3. Lift large pulley and retighten nut.
4. Reinstall belt on pulley.
5. Check belt tension.

Drive Chain Adjustment

Drive chains require very little adjustment. If the chain is too tight (less than one-half inch slack), a popping sound will be heard. If the chain is too loose, it can be lifted off the sprocket. Adjust as follows:

1. Lengthen by adding a half-link or an extra master link, available in bicycle stores.

Note: Adjust the chain tension with the drive belt off.

CHAPTER 5

Troubleshooting

1. Nothing happens when roaster is switched on:
 - 1.1 Check to see if roaster is plugged in.
 - 1.2 Check to see if the back door is properly closed.
 - 1.3 Check electrical outlet to insure that power is available.
 - 1.4 Call a PROBAT technician.

2. Pilot will not stay lit or won't spark:
 - 2.1 Check procedure described at 3.1 on the next page.
 - 2.2 Check to insure that gas valves leading to the roaster are on.
 - 2.3 Gas line may have air in if it was just connected.
 - 2.4 Switch off roaster, wait one minute, then try again.
 - 2.5 Flame sensor may not be sensing flame. Clean sensor, set spark gap at 1/8", move sensor so that flame fills the spark gap as much as possible.
 - 2.6 Check yellow ignition cord at the flame sensor.

3. Burner cuts off or will not stay lit.

3.1 Exhaust temperature is greater than 510-520°.

Follow these procedures:

- a. turn gas off
- b. switch cooling on, See Pic. 4.
Allow roaster to cool to 400°F
- c. reset high limit switch by moving gas control lever to full off position
- d. continue roasting process

3.2 Pressure switch is indicating improper air flow. Check for open clean out doors, restricted exhaust duct, or damaged impeller. Also check to see if pressure switch is broken or out of adjustment. (.75" to 1" w.c.)

3.3 Flame safeguard is indicating no flame safeguard is indicating no Flame, Check: are gas valves off or are you low on fuel, is flame sensor clean and properly adjusted (see 2.4 above)?

4. Roaster overheats and will not restart

4.1 See 3.1 above

Troubleshooting

5. Roaster shuts off completely while roasting.

5.1 Roaster is overheated, see 4.1 above.

5.2 Power supply failure. Check for power at wall socket. Reset building circuit breaker if necessary.

5.3 Motor heater (fuse) is hot and disconnected. Allow to cool then check ampere load against rating on heater.

5.4 Defective motor heater or switch.

5.5 Rear door limit switch senses door is open. Check to see if door is not closed properly or switch is defective or out of adjustment.

CHAPTER 6

Safety

6.1 GENERAL

Please pay attention to the warning labels placed on the roaster for your protection.

Only trained personnel should operate the roaster. Also, all maintenance and repair work should be carried out only by trained personnel.

PROCEDURE IN CASE OF FIRE

Coffee beans will eventually catch fire if you continue to roast them beyond the normal roasting temperature. We have customers that have never had a fire, and we have customers that have fires far too often. Fires in coffee roasters are usually caused by inattention, by the person doing the roasting being distracted or called away from the roaster and he/she forgetting that the coffee has reached, or is past, its desired roast. Therefore, the person doing the roasting should be dedicated to that job only and be able to give full attention during the roasting time.

Should a coffee bean fire start, it is best to use a small amount of water to put it out. **Do not open the discharge door of the roaster drum.** Water will quickly extinguish the burning beans, and the use of a soft spray will put out the fire without blowing the burning beans around the room as might be the case if a high pressure fire extinguisher were used. Accordingly, a garden hose, marked 'in case of fire' and long enough to reach the front of the roaster, should be kept attached to a faucet near the roaster.

However, please note that fire extinguishers must also be provided as required by federal, state, or local codes. Local codes take precedence over any recommendations made by PROBAT.

6.2 ROASTER DRUM FIRE

In the event of a fire in the roaster drum, follow this procedure:

1. shut off the roaster.
2. DO NOT OPEN THE DISCHARGE DOOR OF THE ROASTER DRUM.
(KEEP BEANS IN THE DRUM)
3. shut off the gas.
4. turn on the water enough to get a slow stream.
5. Pull out the sampler and place the hose in the sampler hole. The fire should be extinguished in 5-10 seconds.
6. Put water in the chaff collector immediately.
7. See cleanup procedure in sub-section 6.5 before restarting the roaster.

6.3 STIR-SWEEP COOLER FIRE

In the event of a fire in the stir-sweep cooler, follow this procedure:

1. switch off the roaster.
2. turn on the water enough to get a slow stream.
3. spray water over the beans to put the fire out.
4. see clean up procedure, sub-section 6.5, before restarting the roaster.

6.4 CHAFF COLLECTOR/EXHAUST DUCT FIRE

In the event of a fire in the chaff collector or the exhaust duct, follow this procedure:

1. switch off roaster.
2. use water hose or fire extinguisher through cooling tray. Water or fire extinguisher contents may reach chaff collector and exhaust pipes.
3. open cleanout doors on side or front for other water or fire extinguisher access.

USE EXTREME CAUTION WHEN OPENING THESE DOORS.

Remember: Roasting time should not be interrupted. If you are not distracted during roasting, you will not have to use the above procedures.

6.5 CLEAN UP PROCEDURE

After any of the above fires use the following clean up procedure:

UNPLUG THE ROASTER FIRST!

1. Remove all water or dry chemicals before restarting roaster. Do not operate roaster with water in it. Do not operate roaster on wet floors.
2. Remove coffee, ash, chaff, and carbon with a shovel, scraper or wire brush.
3. Inspect impeller for warpage or damage before restarting. This can be done by looking through the duct located just inside the chaff collector door. You can also reach inside the exhaust duct and feel for damaged blades.
4. If burner will not relight, clean and inspect pilot and flame sensor. Chemicals used in dry fire extinguishers must be removed completely from flame sensor for proper operation. Any disassembly should be performed by qualified PROBAT personnel only.

6.6 SAFETY INTERLOCKS

The unit has various interlocks. They are there for your safety. Do not bypass them. Safety interlocks are as follows:

1. The back door must be closed before anything will turn on.
2. The gas will not turn on unless the exhaust fan is working. This avoids the possibility of a heat or gas buildup if there is a power failure.
3. The gas system includes an electronic pilot so there is no gas being used except when the roaster is in use. Accordingly, the gas pilot must be lit before the system will allow gas to flow to the main burner. Also, if there is loss of flame or electricity the main gas valve will shut off. In addition, there is a limit switch that will shut off the gas if the temperature exceeds a 500°F setpoint. The reset for this temperature limit switch is part of the gas control lever. Once the roaster has cooled down to 400°F, move gas control lever to full off to reset limit switch, then on to desired setting. Allow 5 minutes before relighting.
4. Do not attempt to operate roaster during a power failure.

APPENDIX

Technical Specifications

CAPACITY

	<u>L5</u>	<u>L12</u>
pounds/batch	5-11	10-26
batches/hour	3-4	3-4
pounds/hour (approx.)	35-44	85-104

DIMENSIONS

width	2'3"	3'0"
depth	3.5"	4'11"
height	5'7"	6'4"

OPERATING SPACE

3 ft. at the back, left side, right side
and top

HEATING

choice of natural gas, propane, or electric	48,000 BTU/hr	96,000 BTU/hr
--	---------------	---------------

GAS INLET PRESSURE AT MACHINE REGULATOR

natural gas - Regulator set at:	3." w.c.	same
propane - Regulator set at:	4.0" w.c.	same
<i>note: 3/4" NPT inlet fitting</i>		

ELECTRIC DRIVE MOTOR

choice of 110 volts or	12 amps	12 amps
220 volts	6 amps	6 amps

AIR CONSUMPTION

amb.- cold	295 cfm	410 cfm (Duct temp. 66°F)
drum at 420°F	280 cfm	402 cfm (Duct temp. 139°F)

Appendix

EXHAUST DUCT

connection	5.5" dia.	6" dia.
recommended duct	6-8" dia.	6-8" dia.
maximum volume flow	500 cfm	500 cfm
maximum static pressure	+/- 1/8" water	+/- 1/8" water

WEIGHT

SHIPPING WEIGHT

<u>L5</u>	<u>L12</u>
1,000 lbs.	1400 lbs.
1,100 lbs.	1500 lbs.

SPARE PARTS

PARTS LIST

The highest quality parts have been used in this roaster. When replacing a part use the same part or its equivalent.

ELECTRIC PARTS

Parts / Manufacturer & # / or / Equivalent

PROBAT ROASTER PART

	<u>L5</u>	<u>L12</u>
relay, "Deltrol" - #620-030	KA 1110	KA 1110
motor, "Baldor" - #L35-07, .75 HP., FR.56	KA 1111	KA 1111
motor starter, 110V - Klockner Moeller PKZMI -16	KA 1112	KA 1112
motor starter, 220V - Klockner Moeller PKZMI -10	KA 1124	KA 1124
transformer, "White Rogers" - #3A357 S84Z-401	KA 1113	KA 1113
pressure switch, "Dwyer" - #1823-0-1	KA 1114	KA 1114
door safety switch, "Telemecanique" ZCK-M1	KA 1174	KA 1174
reset switch, "Telemecanique" ZCK-M1	KA 1174	KA 1174

Appendix

GAS PARTS

L5

<u>Part / manufacturer & # / or / Equivalent</u>	<u>PROBAT ROASTER PART #</u>
burner pipe assembly, PROBAT	KA 1151
gas nozzles:	
natural gas, "Anderson" - #BJ214 #64	KA 1115
propane, "Anderson" - #BJ214 #71	KA 1116
gas valve, "Butterball" - 3/8" N.P.T.	KA 1117
gas control:	
natural gas, "Honeywell" - Y8610U3003	KA 1118
propane, "Honeywell" - Y8610U3003	KA 1119
control pilot, "Johnson Controls" - #J995-MDA-2	KA 1152
overtemp safety (manual reset), "Watlow Series" - #140-A-1601-6000	KA 1172
Gordon J20-1-304 thermocouple for Watlow Limit Switch	KA 1175

OTHER PARTS

L5

<u>Part / Manufacturer & # / or / Equivalent</u>	<u>PROBAT ROASTER PART #</u>
thermometer, "Ashcroft"	KA 1121
sampler, PROBAT	C 816790
stir sweep cooler brush (6"), PROBAT	C 525870
stir sweep cooler scraper (6"), PROBAT	C 844831
cooler screen cleaner, PROBAT	CP 3450
drum front bearing, "SKF" - #6204	KA 1100
drum rear bearing, "SKF" - #6205	KA 1101
sight glass, PROBAT 68mm	C 391380
cooler screen, PROBAT 600mm	CP 1000
drive belt, PROBAT, 20x1075	CP 1035
high temperature grease cartridge, PROBAT	KA 3553

Appendix

GAS PARTSL12

<u>Part / manufacturer & # / or / Equivalent</u>	<u>PROBAT ROASTER PART #</u>
burner pipe assembly, PROBAT	KA 1150
gas nozzles:	
natural gas, "Anderson" - #BJ214 #60	KA 1115
propane, "Anderson" - #BJ214 #70	KA 1116
gas valve, "Butterball" - 3/8" N.P.T.	KA 1117
gas control:	
natural gas, "Honeywell" - Y8610U3003	KA 1118
propane, "Honeywell" - Y8610U3003	KA 1119
control pilot, "Johnson Controls" - #J995-MDA-2	KA 1152
overtemp safety (manual reset), "Watlow Series" - #140-A-1601-6000	KA 1172
Gordon J20-1-304 thermocouple for Watlow Limit Switch	KA 1175

OTHER PARTSL12

<u>Part / Manufacturer & # / or / Equivalent</u>	<u>PROBAT ROASTER PART #</u>
thermometer, "Ashcroft"	KA 1121
sampler, PROBAT	C 816790
stir sweep cooler brush (6"), PROBAT	C 525870
stir sweep cooler brush (10"), PROBAT	CP 1056
stir sweep cooler scraper (6"), PROBAT	C 844831
stir sweep cooler scraper (8"), PROBAT	CP 1075
cooler screen cleaner, PROBAT	CP 3450
drum front bearing, "SKF" - #6205	KA 1101
drum rear bearing, "SKF" - #6206	KA 1102
sight glass, PROBAT 68mm	C 391380
cooler screen, PROBAT 900mm	C 350020
drive belt, PROBAT, 20x2040	C 230340
high temperature grease cartridge, PROBAT	KA 3553

Appendix

Attached is information about the utilities to the Probat Roasters L5 and L12.

All of the utility connections are from the back of the roaster near the floor. The positions of the connections as you face the back of the roaster are shown below.

