

BC

BUCKEYE COFFEE ROASTERS



BC COMPLETE MANUAL 2022/2023

**WELCOME TO THE WORLD OF COFFEE ROASTING WITH THE BC
LINE OF ROASTERS!**

THANK YOU FOR INVESTING IN THE BC LINE OF COMMERCIAL COFFEE ROASTERS! YOUR PURCHASE WILL SERVE YOU VERY WELL FOR YEARS TO COME PROVIDING YOU READ AND FOLLOW THE GUIDELINES IN THIS MANUAL AS WELL AS THE GUIDES FOUND ON THE TECH PAGE AT BUCKEYECOFFEE.COM AND THE MEMBERS ONLY PAGE AT BCROASTERS.COM.

GOAL ONE:

**READ THIS MANUAL BEFORE USING EQUIPMENT AND FOLLOW THE
GENERAL GUIDELINES IN IT DURING AND AFTER USE IN ORDER TO
MAINTAIN THE WARRANTY & CARE FOR YOUR EQUIPMENT FOR YEARS TO
COME.**

IMPORTANT NOTICE:

**THIS MANUAL IS PROVIDED AS A GENERAL GUIDE. IT IS ALWAYS THE CUSTOMERS
RESPONSIBILITY TO DO THEIR DUE DILIGENCE IN ADVANCE WHEN BUYING ANY EQUIPMENT TO
ENSURE THEY MEET LOCAL COUNTY AND CITY CODES AS WELL AS FOLLOW THE APPROVED
GUIDELINES ON INSTALLATION OF ALL EQUIPMENT.**

**KEEP A PHYSICAL OR DIGITAL COPY OF THIS MANUAL WITH ROASTER AT ALL
TIMES FOR QUICK DIRECTION & GUIDANCE. CONSULT MANUAL FIRST BEFORE
CONTACTING TECH SUPPORT.**

FAILURE TO READ AND FOLLOW THE GUIDELINES WITHIN THIS MANUAL WILL VOID YOUR ROASTER WARRANTY

SEASONING DRUM:

YOUR ROASTER HAS BEEN BENCH TESTED AND THE DRUM WAS SEASONED PRIOR TO SHIPPING TO YOU. WE DID CLEAN UNIT AFTER ROASTING BUT SOME DEBRIS MAY HAVE FALLEN IN DRUM AFTER CLEANING. THIS IS NORMAL. SO YOU ARE NOW

READY TO ROAST!

SUBJECT:

1. SAFETY FIRST!
2. ELECTRIC REQUIREMENTS
3. UNPACKING AND SETTING UP YOUR ROASTER
4. TECH INFORMATION & MACHINE PARTS
5. GETTING STARTED- GENERAL STEPS IN COFFEE ROASTING
6. DEVELOPING THE CRAFT
7. IMPORTANT: MAINTAIN YOUR MACHINE!
8. WARRANTY INFORMATION
9. AFTER WARRANTY- SERVICE & PARTS
10. TROUBLE SHOOTING & ADJUSTMENTS
11. MORE DETAILS
12. **IMPORTANT: BC-8-135 SAFETY STARTUP GUIDE**
13. **IMPORTANT GAS PRESSURE INFORMATION**

BC PRODUCT WARRANTY:

YOUR NEW ROASTER IS WARRANTED FROM THE DATE OF PURCHASE FOR ONE YEAR. DURING SUCH TIME IF MACHINE BREAKS DOWN DUE TO A DEFECTIVE PART(S) WE SHALL REPLACE PART AND PROVIDE FULL INSTRUCTIONS ON REPLACEMENT INSTALLATION. FREE PRIORITY SHIPPING IS PROVIDED DURING WARRANTY PERIOD. (**SOME COMPANIES MAKE YOU PAY FOR SHIPPING DURING WARRANTY!**) IF IT IS DETERMINED THAT MACHINE WAS ABUSED OR NOT USED ACCORDING TO THE MANUAL THEN THIS IS NOT COVERED UNDER WARRANTY BUT PARTS CAN BE PROVIDED AT NORMAL COST AND SHIPPING.

AFTER WARRANTY PROTECTION: BC ROASTERS

MANY COMPANIES WANT TO SELL YOU EQUIPMENT BUT DON'T OFFER EXTENDED SUPPORT AFTER WARRANTY. WE HAVE FOUND FROM OTHER CLIENTS THAT BOUGHT FROM SOME NAME BRAND COMPANIES THAT WHEN A COMMON PART SUCH AS A MOTOR OR FAN HAS GONE BAD THESE COMPANIES REQUIRE UP TO 90 DAYS TO SHIP A REPLACEMENT ONCE YOU PAY & ORDER PART. THAT IS WHY WE STOCK A LARGE INVENTORY OF THE COMMON AND EVEN RARELY NEEDED PARTS AND OFFER OUR

10 YEAR IN-STOCK PARTS GUARANTEE:

AFTER WARRANTY WE HAVE OUR 10 YEAR IN-STOCK GUARANTEE:(BC ROASTERS, CANYON GRINDERS, AZ ONE CUP MAKERS)

FOR SUPPORT EMAIL: TECH@BUCKEYECOFFEE.COM

BE SURE TO EMAIL NAME, ACCOUNT NUMBER & DETAILS OF ISSUE FOR QUICK RESULTS

1.

SAFETY FIRST

IMPORTANT NOTES FOR GAS ROASTERS:

WHEN USING LPG (LIQUID PROPANE GAS)

NEVER USE A HIGH PRESSURE LPG REGULATOR ON A BC ROASTER. ONLY USE THE BRANDS WE RECOMMEND OR RISK VOIDING WARRANTY AND MORE IMPORTANT YOU MAY RISK YOUR SAFETY.

FOR ANY LPG ROASTER SIZED 3LB. AND UP WE RECOMMEND THE MARSHALL 1912/197 LPG REGULATOR.

TO HELP YOU BETTER UNDERSTAND THE GAS PRESSURE MEASUREMENTS PLEASE SEE OUR GAS PRESSURE CHART BELOW:

NEVER START A GAS ROASTER WITHOUT RUNNING AIR FLOW!

WHEN USING A GAS ROASTER ALWAYS
FOLLOW THE SAFETY INSTRUCTIONS IN
MANUAL.

FOLLOW THESE STEPS FOR A SAFE AND
PRODUCTIVE ROAST:

1. ALWAYS BE SURE YOUR GAS LINE IS FREE OF LEAKS. (SOAPY WATER TEST)
2. TURN ON MACHINE AND CHECK THAT ALL COMPONENTS ARE WORKING PROPERLY
3. WHEN IGNITING ROASTER YOU MUST FOLLOW THIS PROCEDURE:
 - A. TURN ON CHAFF FAN (AIR FLOW) AT LEAST 20% (LISTEN FOR RUNNING FAN)
 - B. PRESS IGNITOR BUTTON (HEAT OR ROAST BUTTON ON CONTROL PANEL) IT WILL BUZZ
 - C. THEN TURN ON GAS FROM UNIT. NEVER TURN GAS ON UNLESS AIR

FLOW IS ON OR GAS COULD BUILD UP IN BURNER ROOM.

4. ONCE FLAME IGNITES ADJUST PRESSURE USING THE KPA GAUGE TO 2-4 KPA. (0.1-1.5 IN NATURAL GAS MODELS) MOST ROASTS CAN BE ACHIEVED AT 2-4 KPA. (0.2-1.50 IN NATURAL GAS) SMALL ROASTS MAY BE ROASTED MUCH LOWER.
5. ADJUST AIRFLOW UP AS ROAST DEVELOPS TO REMOVE SMOKE AND CHAFF FROM DRUM AND IN CONTROLLING TEMPERATURE (ROR)

SAFETY MUST ALWAYS BE #1!

**NEVER CUT CORNERS! NEVER
OPERATE A MACHINE NOT IN
PERFECT RUNNING CONDITION.**

***MACHINES EQUIPPED WITH DRUM SPEED ADJUST SPEED SO BEANS TUMBLE AT 45% (GENERALLY 70-80%) SPEED MAY BE ADJUSTED UP WHEN BEANS GO INTO FIRST CRACK 5 TO 10% IF DESIRED. NORMAL DRUM SPEED SET AT 7-8 ON ROASTERS WITH A 1-10 SPEED CONTROL (70-80% ON SOME MODELS THAT HAVE THE 0-100% CONTROL)

*ALL ELECTRIC MODELS DO NOT REQUIRE MUCH AIR FLOW AT THE BEGINNING OF ROAST OR PREHEAT

DO NOT RUN ROASTER IF FLAME IS NOT CONTROLLED AND BLUE

NATURAL GAS FLAME IS BLUE AND LPG (PROPANE) WILL BE BLUE AT BASE AND ORANGE AT TIPS

AIRFLOW SAFETY:

(2017 AND OLDER) BC MODELS PRIOR TO 2018 USED ONLY STEPLESS FAN SPEED FOR AIRFLOW
(2018 TO 2021 BC-1 THRU 5 MODELS) HAD BOTH STEMLESS FAN SPEED & THE MDDS SYSTEM
(2022 MODELS FROM BC-3.5 AND UP USE ONLY THE MANUAL DAMPER SYSTEM)
2023 & 2024 BC-8 THRU 25 MODELS OFFER BOTH A CHOICE OF STEPLESS AND/OR MANUAL DAMPER
AIRFLOW CONTROLLER. (BEST TO USE ON OR THE OTHER)

SAFETY FIRST:

IMPORTANT: A HIGH QUALITY GOVERNMENT APPROVED FIRE EXTINGUISHER SHOULD ALWAYS BE KEPT NEAR EACH COFFEE ROASTING MACHINE.

1. NEVER RUSH TO GET A JOB DONE. THIS CAN RESULT IN MISTAKES. AND MISTAKES WITH ELECTRIC AND GAS CAN BE FATAL TO YOU AND YOUR EMPLOYEES.
2. NEVER ALLOW AN UNQUALIFIED PERSON TO WORK ON EQUIPMENT OR BE INVOLVED IN ANY PROCESS RELATING TO UNPACKING, INSTALLING OR USING OF EQUIPMENT.
3. **NEVER RUN ROASTER UNATTENDED.** COFFEE IS A COMBUSTIBLE MATERIAL AND CAN EXPLODE AND CAUSE LOSS OF PROPERTY AND LIFE TO ANY NEAR ACCIDENT AREA. ALWAYS RUN EQUIPMENT ONLY BY AUTHORIZED PERSONNEL FULLY TRAINED IN SAFETY PROCEDURES & FIRST AID TRAINING.
4. MACHINE MUST BE PLACED ON LEVEL SURFACE IN HORIZONTAL POSITION. USE A LEVEL TO BALANCE ROASTER PROPERLY.
5. ELECTRIC POWER AT 220V IS VERY DANGEROUS IF NOT PROPERLY SETUP. USE A QUALIFIED CERTIFIED ELECTRICIAN TO SET UP YOUR ELECTRIC CONNECTIONS BEFORE ATTEMPTING TO SETUP AND USE ROASTER (**SEE SECTION: MAKE SURE YOUR ELECTRIC IS CORRECT**)
6. NEVER OPEN UP ROASTING UNIT AT ELECTRICAL BOX OR CONNECTIONS WHILE OPERATING ROASTER. **NEVER OPEN MOTOR GUARD OR TOUCH OR OPEN ELECTRICAL CONNECTIONS WHILE IN USE.** ANY TIME MACHINE IS SERVICED OR MAINTENANCE IS PERFORMED MACHINE MUST BE TURNED OFF AND **DISCONNECTED** FROM POWER SOURCE. IF UNIT IS HARD WIRED SHUT OFF CIRCUIT AT CIRCUIT BREAKER OR CIRCUIT ELECTRIC BOX. **WHEN ATTACHING THE AVIATION PLUGS FOR CHAFF FAN AND COOLING FAN ON SOME MODELS ALWAYS UNPLUG ROASTER FIRST. NEVER DISCONNECT OR RECONNECT PLUG WHEN MACHINE IS PLUGGED IN.**
7. DO NOT TOUCH SURFACE OF ROASTER WHILE HEATING AS UNIT BECOMES VERY HOT AND INJURY OR BURNS COULD OCCUR. USE PROTECTIVE INSULATED SAFETY GLOVES WHEN OPERATING ROASTER TO AVOID BURNS TO HANDS. **KEEP AN APPROVED FIRST AID KIT NEARBY IN CASE OF ACCIDENTS.**
8. COFFEE AND CHAFF ARE COMBUSTIBLE MATERIALS. **ALWAYS CHECK DEBRIS TRAY BELOW DRUM AND CHAFF UNIT AFTER EACH ROAST TO KEEP CLEAN FROM POTENTIAL DUST OR CHAFF FIRES. IF A FIRE OCCURS NEVER OPEN UP DRUM. TURN OFF UNIT AND UNPLUG ROASTER INTO THE 220V OUTLET. NEVER USE WATER AS THIS COULD RESULT IN FATAL ELECTRICAL SHOCK AND WILL DAMAGE EQUIPMENT AND VOID WARRANTY.**
9. **NEVER OVER-ROAST COFFEE!** COFFEE IS COMBUSTIBLE MATERIAL AND IF OVER HEATED WILL BURN AND PERHAPS EXPLODE. MACHINE MUST BE SUPERVISED AT ALL TIMES IT IS IN USE AND NEVER SHOULD BEANS BE OVERHEATED OR BURNED. WHILE OUR ROASTERS CAN PRODUCE FRENCH & ITALIAN ROASTS OFTEN WITHIN ONLY 15-30 SECONDS AFTER ACHIEVING THIS DARK ROAST YOU RISK OVERCOOKING BEANS AND RISK DESTROYING ENTIRE BATCH AS WELL AS CREATING A FIRE HAZARD. ONCE COFFEE REACHES DARK FRENCH ROAST MOST THE FLAVOR OF THE COFFEE HAS ALREADY BEEN COOKED OUT OF BEANS AND ONLY THE TASTE OF BURNT BEANS EXISTS. AVOID OVER ROASTING AND BURNING BEANS. **(OILY BEANS ARE OVERCOOKED BEANS. THE CELLULAR STRUCTURE OF BEANS ARE DAMAGED WHEN OILY.)**

10. DO NOT WEAR LOOSE FITTING CLOTHES WHILE OPERATING MACHINERY. CLOTHING CAN BE CAUGHT BY POWERFUL MOTORS RESULTING IN SERIOUS INJURY. DO NOT PUT FINGERS OR HANDS NEAR ANY MOVING PART OR OPEN ANY PART OF ACCESS DOORS.

11. NEVER ALLOW MACHINE TO COME INTO CONTACT WITH WATER. EVEN WHEN MACHINE IS OFF **DO NOT CLEAN ATTACHED SURFACES WITH WATER OR SPRAY LIQUIDS ON UNIT.** IF COOLING TRAY OR HOPPER NEEDS CLEANED DISCONNECT AND CLEAN AWAY FROM UNIT. NEVER LEAVE ELECTRICAL ATTACHED OR ON WHEN SERVICING UNIT. DRY ALL PARTS BEFORE REASSEMBLY OF UNIT.

12. NEVER OPERATE MACHINERY WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS OR IF ILL OR EVEN ON PRESCRIPTION MEDICATIONS. DO NOT OPERATE WHILE FATIGUED. USER MUST BE FULLY ALERT WHILE OPERATING MACHINERY.

13. NEVER OVER LOAD MACHINE WITH TOO MUCH COFFEE. IF COFFEE IS PULLED INTO CHAFF UNIT REDUCE THE AMOUNT OF COFFEE ROASTED PER BATCH AND/OR REDUCE AIRFLOW WHEN BEANS BECOME LIGHTER IN WEIGHT DURING AND AFTER FIRST CRACK.

14. KEEP ALL UNAUTHORIZED PERSONS AND CHILDREN AWAY FROM EQUIPMENT. 15. NEVER TOUCH HOT EXHAUST PIPES OR CONNECTIONS. ALWAYS USE APPROVED GLOVES TO PROTECT HANDS.

16. NEVER STOP DRUM WHILE HEATING COFFEE. THIS WILL RESULT IN BURNED PRODUCT AND MAY RESULT IN FIRE HAZARD. IF POWER GOES OFF OR DRUM STOPS TURN OFF MACHINE IMMEDIATELY AND IF ROASTER IS EQUIPPED WITH A MANUAL WAY TO TURN DRUM THEN IMMEDIATELY REMOVE BEANS FROM DRUM. IF ROASTER DOES NOT OFFER A MANUAL MEANS TO EXTRACT BEANS WHEN POWER FAILS IT MAY BE BEST NOT TO OPEN DRUM AS AIR OR OXYGEN COULD IGNITE BEANS. IF ABLE MANUALLY ROTATE DRUM UNTIL POWER RESTORED.

17. USE ONE DRY SOFT CLOTH TO CLEAN EXTERIOR OF UNIT WHEN MACHINE IS OFF AND COOLED AND DISCONNECTED FROM ELECTRIC. NEVER USE WATER OR WET CHEMICALS WHILE IN USE. NEVER SPRAY CLEANERS DIRECTLY ON EQUIPMENT.

18. **GAS UNITS: ALWAYS CHECK GAS LINES TO ENSURE NO LEAKS.** USE SOAPY WATER ON GAS LINES (NOT ON MACHINE) BEFORE IGNITING ROASTER TO MAKE SURE THERE ARE NO LOOSE CONNECTIONS. IF LOOSE CONNECTIONS OR LEAKS ARE FOUND IMMEDIATELY TURN OFF ALL ELECTRIC AND CONTACT A SPECIALIST OR CERTIFIED TECHNICIAN TO PERFORM REPAIRS. GAS CAN BE DEADLY AS IT CAN SUFFOCATE USER IN CONFINED AREAS BY LEAKAGE AND/OR CAN CAUSE EXPLOSION IF COMING INTO CONTACT WITH A SPARK OR ELECTRIC CONNECTION.

19. **DO NOT USE EXTENSION CORDS** AND MAKE SURE ALL CORDS ARE NOT TWISTED, RESTRICTED OR DAMAGED IN ANY WAY PRIOR TO USE.

SAFETY WHEN USING GAS:

HAVING A GENERAL UNDERSTANDING ABOUT GAS (LPG OR NG) IS IMPORTANT IN ORDER TO RUN YOUR EQUIPMENT SAFELY.

UNDERSTANDING GAS PRESSURE:

NATURAL GAS: IS A LOW PRESSURE GAS THAT IS OFTEN PUMPED INTO A BUILDING AT 7WC PRESSURE OR BELOW. IT IS VITAL THAT YOU UNDERSTAND AND KNOW THE GAS PRESSURE AS WELL AS THE BTU ON ANY GAS LINE YOU INTEND TO USE FOR ROASTING. IF YOUR GAS PRESSURE IS TOO LOW YOU WILL EITHER NOT BE ABLE TO ROAST AS FAST AS NORMAL OR YOU WILL NOT BE ABLE TO DO A FULL ROAST IN YOUR ROASTER.

LISTED BELOW ARE RECOMMENDED GUIDELINES & GAS PRESSURE NEEDED WITH EACH OF OUR ROASTERS:

- BC-1 ROASTER: 6500 BTU (UP TO 7WC PRESSURE WITH NG)
- BC-2 ROASTER: 12,000 BTU (7WC RECOMMENDED ON NG)
- BC-3.5 (SINGLE WALL 23,000 BTU, DW 31,000BTU) 7WC ON NG
- BC-5 (SW-31,000 BTU & DW 40,000 BTU) 7WC ON NG
- BC-8 (SW 46,000BTU & DW 55,000BTU)
- BC-15 (DW 80,000BTU) 7-14 WC GAS PRESSURE NG
- BC-25 (120,000 BTU) 7-14WC GAS PRESSURE ON NG

WHEN USING LPG (LIQUID PROPANE GAS)

NEVER USE A HIGH PRESSURE LPG REGULATOR ON A BC ROASTER.

ONLY USE THE BRANDS WE RECOMMEND OR RISK VOIDING WARRANTY AND MORE IMPORTANT YOU MAY RISK YOUR SAFETY. FOR ANY LPG ROASTER SIZED 3LB. AND UP WE RECOMMEND THE MARSHALL 1912/197 LPG REGULATOR. TO HELP YOU BETTER UNDERSTAND THE GAS PRESSURE MEASUREMENTS PLEASE SEE OUR GAS PRESSURE CHART BELOW:

| GAS PRESSURE: | | |
|---------------|----|-------|
| KPA | WA | PSI |
| 1 | 4 | 0.14 |
| 2 | 8 | 0.289 |
| 3 | 12 | 0.433 |
| 4 | 16 | 0.578 |
| 5 | 20 | 0.722 |
| 6 | 24 | 0.867 |

2. ELECTRIC REQUIREMENTS

WHETHER YOU ARE USING A GAS ROASTER OR AN ALL ELECTRIC ROASTER YOU MUST UNDERSTAND THE ELECTRIC REQUIREMENTS NEEDED TO RUN YOUR EQUIPMENT.

ALL OUR ROASTERS ARE MADE FOR WORLDWIDE USE. THEREFORE THEY RUN ON 220-240V SINGLE PHASE POWER. BECAUSE THE SMALLER GAS MODELS (BC-1 THRU 8) HAVE VERY LOW WATTAGE WE PROVIDE A 110 VOLTAGE TRANSFORMER OR CONVERTER WHICH, WHEN PROPERLY SET UP, WILL ALLOW YOUR ROASTER TO RUN ON ANY 110-120V VOLTAGE LINE.

| <u>*2022 GAS & LPG MODELS</u> | | <u>WATTAGE:</u> | <u>AMPS:</u> | <u>ALL ELECTRIC MODELS</u> | |
|-----------------------------------|-------|-----------------|--------------|----------------------------|--|
| 2022 BC-(1) | 100W | 1A | N/A | | |
| 2022 BC-(2) | 170W | 1A | N/A | | |
| 2022 BC-(3.5) | 240W | 2A | 4240W | 20A | |
| 2022 BC-(5) | 310W | 2A | 5310W | 25A | |
| 2022 BC-(8) | 610W | 3A | N/A | | |
| BC-15: | 760W | 4A | N/A | | |
| BC-25 | 1200W | 6A | N/A | | |

* SUBJECT TO CHANGE ON MODELS BY YEAR WITHOUT NOTICE. SEE MODELS STAT SHEETS

BC-1 THRU 8 GAS MODELS COME STANDARD WITH A 110VOLTAGE CONVERTER.

**BUT YOU MUST SET THE VOLTAGE CONVERTER UP PROPERLY BEFORE
USE. SEE INSTRUCTIONS BELOW:**

(VOLTAGE CONVERTERS CANNOT BE USED ON ALL ELECTRIC ROASTERS)

1. SET THE SWITCH ON BACK OF VOLTAGE CONVERTER TO 110 or 115 (This allows the voltage converter to take your 110V power to convert it to 220V.)



MOVE SWITCH ON BACK TO 110V or 115V THEN YOU CAN PLUG CONVERTER INTO A 110V OUTLET

**2. PLUG ROASTER INTO THE 220V
OUTLET ON FRONT OF VOLTAGE
CONVERTER:**



TYPE OF ELECTRIC PLUG ON YOUR ROASTER:

GAS ROASTERS:

2-POLE/3-WIRE, 20A, 250-VOLT



ELECTRIC ROASTERS:

LOCKING PLUG, BLACK & WHITE, 2-POLE, 3-WIRE GROUNDING, NEMA L6-30P, 30-AMP., 250-VOLT

3. UNPACKING & SETTING UP YOUR ROASTER

1. WHEN YOUR ROASTER ARRIVES VIA FREIGHT DELIVERY IT WILL BE IN A **WOODEN CRATE**. SOME ROASTERS HAVE WOODEN CRATE COVERS WITH METAL LATCHES BENT AT BASE OF CRATE AND ONCE YOU REMOVE THE METAL STRAPS WITH WIRE CUTTERS OR PLIERS YOU CAN SIMPLY STRAIGHTEN THE METAL LATCHES ON CRATE COVER AND USING 2 PERSONS YOU CAN CAREFULLY LIFT CRATE COVER OFF BASE OF CRATE.

IN OTHER CASE THE CRATES MAY BE ASSEMBLED WITH WOOD SCREWS AND YOU CAN REMOVE WOOD SCREWS FROM TOP AND SIDES AND REMOVE EACH PART PIECE BY PIECE.

2. NEXT MOST ROASTERS ARE **HELD TO BASE OF CRATE WITH METAL BRACKETS** (BC-2 MODELS ARE HELD IN PLACE WITH CLOTH STRAPS) WITH ROASTERS HELD IN PLACE WITH METAL BRACKETS YOU WILL NEED EITHER A WRENCH OR IN SOME CASES A METRIC HEX KEY TO UNSCREW BOLTS THAT HOLD UNIT TO BASE.

3. NEXT YOU WILL NEED HELP ON THE TABLETOP MODELS LIFTING ROASTER CAREFULLY OFF BASE OF CRATE ONTO A PERMANENT STAND THAT YOU PLAN TO USE FOR ROASTER. FOR LARGER ROASTERS SUCH AS THE BC-8 AND ABOVE THE ROASTERS HAVE CASTER WHEELS SO GENTLY CAN BE REMOVED TO RAMPED OFF CRATE BASE ONTO FLOOR. NEVER TRY TO DO THIS HEAVY WORK WITHOUT LIFTING EQUIPMENT AND/OR SEVERAL WORKERS TO HELP MOVE EQUIPMENT WITH PROPER SAFETY EQUIPMENT AND MOVING TOOLS.



BC-3.5's & 5's ARE ATTACHED TO BASE OF CRATE WITH A FEW STEEL BRACKETS. YOU WILL NEED TO USE EITHER A WRENCH OR METRIC HEX KEY (DEPENDING ON BOLT TYPE) TO REMOVE UNIT FROM BASE OF CRATE

(SAVE SHIPPING BRACKETS FOR FUTURE MOVES)



BC-8's AND UP ARE HELD SECURELY TO BASE OF CRATE WITH TWO STEEL RAILS. YOU WILL NEED TO REMOVE THE BOLTS HOLDING IT TO CRATE THEN CAREFULLY SLIDE OFF RAILS USING THE BUDDY SYSTEM OR A FORKLIFT OR LIFTING TOOLS AND THEN EITHER RAMP UNIT OFF CRATE BASE OR LIFT TO GROUND. THESE ROASTERS HAVE CASTER WHEELS SO YOU CAN UNLOCK CASTER WHEELS & ROLL ROASTER ON FLAT FLOOR TO DESIGNATED LOCATION

(SAVE CRATE FOR FUTURE MOVES)

PARTS OF ROASTER:

WHEN YOUR ROASTER ARRIVES IN CRATE IT WILL MOSTLY BE FULLY ASSEMBLED WITH THE EXCEPTION OF JUST A FEW PARTS:

ON THE **BC-1 THRU 5's** THERE WILL BE A BOX OR TWO WITH THE FOLLOWING PARTS:

1. **CHAFF FAN, USB CORD, BLUETOOTH DONGLE (NEEDED ON SOME COMPUTERS TO USE BT WITH ARTISAN SOFTWARE, THUMB SCREWS TO ATTACH CHAFF FAN TO CHAFF UNIT, MAYBE A COUPLE TEMPORARY EXHAUST CLAMPS.**
2. **ON SOME ROASTERS THERE WILL ALSO BE THE FOLLOWING PARTS IF INCLUDED IN ORDER:**
MAG AIRFLOW GAUGE (ONLY INCLUDED STANDARD ON THE BC-3.5 MODELS AND UP)

OPTIONAL PARTS: DEPENDING ON IF YOUR ROASTER IS A GAS MODEL YOU WILL HAVE EITHER CHOSEN A LPG REGULATOR WITH ATTACHED GAS LINE OR A NATURAL GAS CONVERSION KIT

BC-8 AND UP MODELS: ON THESE MODELS THE CHAFF UNIT WILL BE ATTACHED BESIDE ROASTER AND SHOULD BE ATTACHED TO ROASTER AFTER MOVING IT THROUGH ANY DOORS OR TIGHT SPOTS. IT IS JUST A SIMPLE FERRULE CLAMP AND SILICON GASKET THAT IS USED TO ATTACH CHAFF UNIT. THEN

SIMPLY PUT CHAFF FAN ON TOP OF CHAFF UNIT.



PARTS WITH NEW ROASTER SHIPMENTS

(PARTS PICTURE FOR ILLUSTRATION)

1. **CHAFF FAN**
2. **USB CORD**
3. **THUMBSCREWS FOR FAN & CHAFF UNIT**
4. **BLUETOOTH DONGLE (NEEDED ON SOME COMPUTERS FOR BT CONNECTION)**
5. **EXHAUST CLAMPS**
6. **SILICON GASKET (ON BC-8-35) WHEN CHAFF UNIT COMES SEPARATED FROM ROASTER**

BC-1 THRU 5 UNITS COME WITH CHAFF UNIT CONNECTED TO ROASTER WHEN SHIPPED:



PLEASE SEE EACH DATA OR SPEC SHEET ON YOUR SIZE ROASTER FOR DETAILS ON ELECTRICAL & GAS REQUIREMENTS.

**BC-8 THRU 35 MODELS COME WITH CHAFF UNIT
REMOVED FROM ROASTER TO AID IN SETUP AND
MOVING UNIT**

**ONCE IN LOCATION SIMPLY CONNECT WITH
FERRULE CLAMP AND SILICON GASKET**



CONNECTIONS WITH GAS ROASTERS:

ALL BC ROASTERS ARE SHIPPED EQUIPPED TO RUN ON LPG (LIQUID PROPANE GAS). BUT THEY CAN BE CONVERTED BY CLIENT WITH A QUALIFIED GAS TECHNICIAN THAT WILL NOT ONLY CONVERT ROASTER BUT WILL TEST ALL EXTERNAL AND INTERNAL GAS LINES AND CONNECTIONS FOR GAS LEAKS.

IF YOU PLAN TO BUY AND CONVERT YOUR ROASTER TO NATURAL GAS PLEASE BE SURE TO CHECK THE BTU AND GAS PRESSURE REQUIREMENTS FOR THE ROASTER YOU CHOOSE TO MAKE SURE YOUR EXISTING OR NEW NATURAL GAS LINE HAS THE PROPER SETUP TO PROVIDE ENOUGH GAS AND PRESSURE TO DO FULL CAPACITY ROASTING. (SEE EACH ROASTERS SPEC OR STAT SHEET FOR BTU AND GAS PRESSURE REQUIREMENTS)

CONNECTING WITH LPG GAS

WHEN ORDERING ROASTER TO CONNECT WITH LPG (PROPANE GAS) YOU WILL BE DIRECTED TO BUY THE APPROVED MARSHALL 1912/197 LPG REGULATOR WHICH COMES WITH A PRO CRIMPED GAS LINE.

IT IS BEST NOT TO USE EXTERNAL GAS TANK METERS AS THESE ARE OFTEN CHEAP PARTS THAT GO BAD OVER TIME AND MAY REDUCE OR PREVENT GAS FROM FREELY FLOWING TO YOUR ROASTER.

ALSO YOU MUST MAKE SURE MARSHALL REGULATOR IS PROPERLY INSTALLED WITH REGULATOR FACING UPWARD (NOT TURNED SIDWAYS OR UPSIDE DOWN)

LPG TANK SHOULD BE OUTSIDE AND IN MOST CASES LOCAL LAWS REQUIRE TANKS BE SET 4' OR MORE AWAY FROM BUILDINGS.

EXAMPLE OF MISTAKES MADE USING LPG:

1.

AS CAN BE SEEN IN PICTURE TO RIGHT AN LPG TANK SHOULD NOT BE SET INSIDE BUILDING WHEN ROASTING (EVEN FOR TEMPORARY SETUPS)

2.

WE DO NOT RECOMMEND THE USE OF PROPANE TANK GAUGE LEVEL INDICATORS AS THESE CAN GO BAD AND EFFECT THE FLOW OF GAS (INSET PICTURE)

3.

THE GAS REGULATOR SHOULD BE HORIZONTAL WITH BLACK CAP ON TOP FACING UPWARD. (NEVER SHOULD GAS REGULATOR BE SIDWAYS AS SEEN IN PICTURE OR UPSIDE-DOWN)



SOME RECOMMENDED SUGGESTIONS ON GAS LINES RUN INTO BUILDING:

SOME BUILDINGS HAVE PREEXISTING GAS LINES RUN INTO BUILDING SUCH AS SEEN IN PICTURE TO RIGHT:

IMPORTANT SAFETY FEATURE:

BE SURE THAT YOUR GAS LINE HAS A SHUT OFF VALVE BEFORE ENTERING INTO ROASTER AND SHUT OFF WHEN ROASTER IS NOT IN USE



CONNECTING TO A PERMANENT GAS LINE:

AS PREVIOUSLY STATED TEST ANY EXISTING LINES TO ENSURE THEY PROVIDE ENOUGH GAS PRESSURE AND BTU (THIS IS ESPECIALLY IMPORTANT WITH NATURAL GAS AS IT IS A LOW PRESSURE GAS)

ALSO TEST ALL LINES FOR LEAKS

WHEN CONNECTING TO A PERMANENT GAS LINE YOU MAY FIND IT BEST TO HAVE YOUR GAS TECH USE AN APPROVED FLEXIBLE GAS LINE SUCH AS SEEN IN IMAGE TO LEFT.

BE SURE TO USE YELLOW GAS TAPE AND LEAK LOCK SEALANT ON CONNECTIONS WHERE REQUIRED.

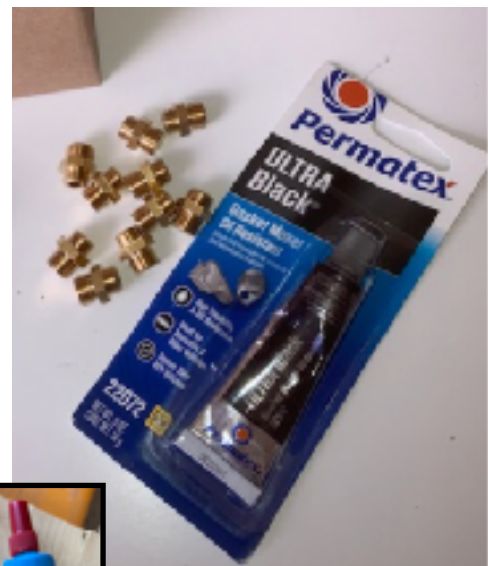
IF CONVERTING GAS ROASTER FROM LPG TO NG:

IF CONVERTING YOUR ROASTER FROM LPG TO NG YOU WILL WANT YOUR GAS TECH TO FOLLOW THE INSTRUCTIONS PROVIDED IN THE GAS CONVERSION KIT.

IN GENERAL WE ONLY RECOMMEND THE NEED TO CHANGE OUT THE GAS ORIFICES WITH THE CORRECT TYPE USING AN APPROVED SEALANT SUCH AS SEEN IN PICTURE TO RIGHT

IN SOME CASES A USER MAY WISH TO **CHANGE OUT THE GAS GAUGE** AS WELL. EXTREME CARE MUST BE USED IN DOING SO THAT INTERNAL GAS LINES ARE NOT DAMAGED OR LEAKS ARE NOT CAUSED

ALSO IF CONVERTING TO NG YOU MAY NEED TO CHANGE THE 3/8" BRASS UNION WITH A 1/2" BRASS UNION (INSET PICTURE)



SETTING UP THE EXHAUST SYSTEM FOR YOUR ROASTER:

PLEASE SEE THE SPEC OR DATA SHEET ON EACH ROASTER FOR DRAWINGS OF EACH ROASTER & SEE THE GENERAL EXHAUST SETUP GUIDE TO HELP WITH YOUR EXHAUST PLANNING IN YOUR BUILDING. BELOW ARE SOME GENERAL GUIDELINES:

- + FOR THE BC-1 THRU BC-5 EXHAUST PIPING MUST BE RATED FOR 500F
- + FOR THE BC-8 THRU BC-135 EXHAUST PIPE RATINGS MUST BE RATED 1000F OR ABOVE
- + EXHAUST PIPING MUST BE SETUP FOR POSITIVE PRESSURE & THEREFORE MAXIMUM LENGTH OF PIPE SHOULD NOT EXCEED 20'. DEDUCT 3-5' PER 45 TO 90 DEGREE PIPE. IF YOUR EXHAUST EXCEEDS 20' THEN YOU MAY NEED TO HAVE A CONTRACTOR INSTALL A BOOSTER FAN TO KEEP POSITIVE PRESSURE ON YOUR EXHAUST PIPE.
- + **IMPORTANT:** IF RUNNING THE COOLING TRAY EXHAUST INTO MAIN EXHAUST YOU MUST USE A BACKDRAFT OR BLAST DAMPER OFF COOLING EXHAUST WHERE IT CONNECTS TO MAIN EXHAUST TO AVOID SMOKE GOING BACKWARD INTO COOLING TRAY
- + YOU MUST NOTE ON EACH SPEC SHEET THE MINIMUM DISTANCE THAT ROASTER AND ALL PIPES MUST BE KEPT FROM COMBUSTABLE MATERIALS.

PIPE ONE WAY BACKDRAFT OR BLAST DAMPER:

IF RUNNING TWO PIPES INTO ONE YOU MUST USE A ONE WAY DAMPER WHERE COOLING TRAY PIPE CONNECTS TO EXHAUST PIPE FROM CHAFF UNIT. IF YOU FAIL TO DO SO SMOKE FROM EXHAUST PIPE WILL BLOW INTO COOLING TRAY AND FILL BUILDING WITH SMOKE AND CHAFF. SEE PICTURES BELOW

BACK-DRAFT DAMPER



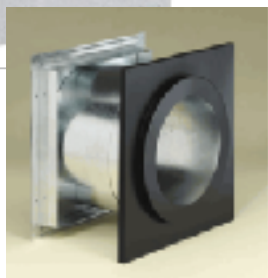
INSTALLERS ASSUME FULL RESPONSIBILITY FOR INSTALLATION WORK

BLAST DAMPER



WHEN VENTING EXHAUST THROUGH A WALL OR ROOF DOUBLE WALL PIPING AND/ OR A HIGH TEMPERATURE THIMBLE IS REQUIRED

ALL EXHAUST PIPES SHOULD HAVE A PROPER CAP AT END TO PREVENT BACKDRAFT OR ANY BLOCKAGE



CONNECTING AND SECURING ALL PIPES:

A NUMBER OF OPTIONS EXIST TO CONNECT PIPES TO PREVENT SMOKE FROM LEAKING INTO BUILDING. THERE ARE VARIOUS CLAMPS, HEAT TREATED CAULKING AND HEAT RESISTANT SILICON LINED CLAMPS. MAKE SURE THE METHOD USED IS APPROVED IN YOUR AREA. (**YOU MUST MAINTAIN POSITIVE AIR PRESSURE WHEN VENTING OUT OF BUILDING**)

IMPORTANT: YOU MUST BE ABLE TO OPEN PIPES FOR REGULAR CLEANING WITH A SUITABLE PIPE BRUSH.

4. TECH INFORMATION & MACHINE PARTS

SEASONING DRUM?

YOUR ROASTER HAS BEEN TESTED TWICE AND WE HAVE HAD TWO ROASTS RAN THROUGH DRUM DURING TESTING AT FACTORY AND FINAL TESTING WHEN AT OUR WAREHOUSES IN ARIZONA. UNLIKE SOME MANUFACTURES THAT DO NOT TEST EQUIPMENT UNDER NORMAL AND EXTREME CONDITIONS WE PERFORM HEAT TESTS TO REMOVE ANY EXCESSIVE GREASE OR OILS ON DRUM FROM MANUFACTURING AS WELL AS RUNNING TEST ROASTS ON YOUR UNIT. THEREFORE WHEN YOU RECEIVE ROASTER SEASONING DRUM IS NOT NECESSARY. BUT IF YOU PREFER TO DO FURTHER SEASONING THAT IS YOUR CHOICE.

NOTE:

WE ONLY USE QUALITY BEANS WHEN SEASONING AND TEST ROASTING YOUR ROASTER. WHILE WE CLEAN ROASTER COMPLETELY A FEW BEANS MAY STICK TO INSIDE DRUM AND NOT COMPLETELY DRY PRIOR TO SHIPMENT. IF YOU FIND A FEW BEANS IN DRUM OR CHAFF WHEN SETTING UP PLEASE REMOVE AS THESE ARE PART OF THE SEASONING PROCESS THAT SAVES YOU EXTRA TIME, WORK AND COST



BC ROASTERS COME IN YOUR CHOICE OF SINGLE OR DOUBLE WALL 304S STAINLESS STEEL DRUMS (304S IS THE HIGHEST QUALITY MATERIAL FOR ROASTING)

SINGLE VS DOUBLE WALL DRUMS-WHICH IS BEST?

THERE ARE BOTH ADVANTAGES AND TRADEOFFS IN EITHER TYPE OF DRUM. BOTH CAN PRODUCE GREAT TASTING COFFEE.

ADVANTAGES:

1. BY HAVING 2 LAYERS OF STEEL WITH AN AIR CUSHION BETWEEN IT HELPS TO PROTECT BEANS FROM CHANCES OF SCORCHING & MAYBE SOME TIPPING OR OTHER EFFECTS DUE TO EXCESSIVE CONDUCTIVE HEAT FROM DRUM.
2. WE HAVE FOUND IN SOME CASES IT ALLOWS SMALLER BATCH ROASTING AND GENERALLY NOT AS MUCH POWER TO KEEP DRUM HOT DURING ROASTING.

TRADEOFFS:

1. **LONGER PREHEAT TIMES:** DUE TO THE INCREASED THICKNESS OF DRUM AND AIR CUSHION BETWEEN WALLS IT MAY TAKE 2 TIMES LONGER TO PREHEAT AND 2-3 TIMES AS LONG TO COOL DOWN ROASTER AT DAYS END.
2. **DIFFERENT SETTINGS ON ROASTER:** GAS PRESSURE SETTINGS AND EVEN AIRFLOW SETTINGS MAY BE SOMEWHAT DIFFERENT THAN ROASTING ON THE SAME MODEL SINGLE WALL DRUM.
3. **COST:** OUR DOUBLE WALL DRUM ROASTERS CAN COST \$400-\$1000 MORE THAN EXACT MODEL IN SINGLE WALL.

THERE MAY BE OTHER DIFFERENCES AS WELL

MAINTENANCE DURING ROASTING:

IT IS VITAL YOU KEEP THE **CHAFF UNIT** CLEANED AND **DEBRIS TRAY** EMPTIED BETWEEN ROASTS AS WELL AS MONITOR YOUR AIRFLOW AND KEEP ALL AIRWAYS CLEAN WHILE ROASTING. OTHER MAINTENANCE CAN BE PERFORMED AFTER OR BEFORE YOU BEGIN A ROAST DAY. SEE MAINTENANCE IN MANUAL AND ONLINE VIDEOS.

END OF DAY:

WHEN YOU ARE FINISHED ROASTING AT DAYS END IT'S VITAL YOU
**COOL DOWN THE ROASTER COMPLETELY BEFORE
TURNING OFF MACHINE:**

FAILURE TO DO SO WILL IN TIME DAMAGE ELECTRONIC PARTS IN ELECTRICAL ROOM AND VOID WARRANTY. THE WAY TO COOL ROASTER IS TO TURN OFF ALL GAS AND HEAT. TURN THE MANUAL DIAL DAMPER UP TO 10 AND OPEN BOTH HOPPER CHUTE AND DRUM DOOR. SOME CLIENTS EVEN PUT A SMALL FAN IN COOLING TRAY TO BLOW COOL AIR INTO DRUM AND UP AND OUT EXHAUST. DOUBLE WALL ROASTERS WILL TAKE 2-3 TIMES LONGER TO COOL THAN A SINGLE WALL. PERHAPS EVEN 45-60 MINUTES OR MORE. DURING THIS TIME THERE ARE PLENTY OF OTHER JOBS THAT CAN BE DONE IN THE ROASTERY. ONCE MACHINE IS COOLED NEAR TO ROOM TEMPERATURE YOU CAN TURN OFF MACHINE. MOST DETAILED MAINTENANCE CAN EASILY BE COMPLETED IN THE MORNING BEFORE PREHEATING ROASTER AS UNIT WILL STAY HOT FOR A LONG TIME AFTER YOU FINISH FINAL ROAST AT DAYS END. BUT ALWAYS CLEAN **DEBRIS FROM CHAFF FAN DAILY AS WELL AS DEBRIS AND CHAFF FROM CHAFF UNIT AND DEBRIS TRAY THROUGHOUT THE ROASTING DAY.** CHAFF UNIT CAN BE EMPTIED IN BETWEEN ROASTS BY TURNING FAN POWER OFF MOMENTARILY

BC CONTROL PANEL-Gas Models



2022 BC-3.5 & 5 CONTROL PANEL



BC-2 CONTROL PANEL



BC-8-25 CONTROL PANEL

***2023-24 BC-8-25 MODELS HAVE REMOVED THE EMERGENCY STOP BUTTON AND ADDED A AIR VOLUME CONTROL KNOB THAT CAN BE USED TO ADJUST AIRFLOW.**

CONTROL PANEL BUTTONS

ALL MODELS SHARE SOME MAIN CONTROLS:

1. **POWER BUTTON**-TURNS ON/OFF POWER
2. **IGNITER-(ROASTING)** TURNS ON/OFF IGNITER
3. **TIMING**- TURNS ON/OFF TIMER
4. **COOLING**- TURNS ON/OFF COOLING FAN
5. **MIXING**- TURNS ON/OFF MIXING ARMS
6. **EMERGENCY STOP**: ONLY USE TO STOP ENTIRE ROASTER FOR EMERGENCY

TIMER CONTROL

BC-1 & 2: A SIMPLE RESET BUTTON IS FOUND ON TIMER

BC-3.5-135: USES AN OMRON TIMER WHICH HAS A SMALL RESET BUTTON ON LOWER LEFT SIDE OF CONTROL



OMRON CONTROLS

THERE IS ONE OMRON CONTROL ON THE BC-1 & TWO ON THE BC-2 THROUGH 135.

IMPORTANT NOTE:

THE SETTINGS ON THE OMRON CONTROLS SHOULD NOT BE CHANGED. CHANGING THE SETTINGS IN THE MENUS CAN PREVENT THE ROASTER FROM WORKING PROPERLY. IF BY ACCIDENT SOMEONE CHANGES THE SETTINGS ON THE OMRON CONTROLS THEY SHOULD

CONSULT THE TECH PAGES AT

BUCKEYECOFFEE.COM OR THE MEMBERS PAGES AT BCROASTERS.COM

TO CORRECT THEIR MISTAKE.

DO NOT CHANGE SETTINGS ON OMRON CONTROLS

HOT AIR TEMP: ET

(ENVIRONMENTAL TEMPERATURE)

THIS PROVIDES THE TEMPERATURE OF THE HOT AIR RUNNING THROUGH DRUM PROVIDING CONVECTIVE HEAT

BEAN TEMP: BT

THIS PROVIDES THE EXTERNAL TEMPERATURE OF THE BEANS DURING ROASTING AND SHOULD BE THE MAIN TEMPERATURE CONTROL IN MOST OF YOUR DECISION MAKING (ALL THE TEMPERATURES LISTED IN THE SECTION ON GENERAL ROASTING USUALLY REFER TO THE BT)

ELECTRIC CONTROL PANEL:
(NOTE: ON 2018 AND NEWER MODELS KEEP THE HOT AIR ADJUSTMENT FAN ON 100% AND USE THE MANUAL DIAL DAMPER TO CONTROL AIRFLOW)

AT RIGHT ON MODELS 2021 AND EARLIER

IN 2022 WE REMOVED THE AIR VOLUME (HOT AIR ADJUSTMENT CONTROL) ON BC-3.5 & 5 MODELS



- 1.Hot air temperature: Display the temperature of hot air.
- 2.Bean temperature: Display the temperature of beans inside the drum.
- 3.Timer: Display the heating time.
- 4.Hot air adjust: Change the hot air fan speed to adjust the hot air.
- 5.Heating adjust: Change heating power of the heating rods to adjust heating temperature.
- 6.Power: Press the button to turn the power.
- 7.Heating: Press the button, the heating rods can be heated by electricity.
- 8.Timing: Press the button,start time;press again,pause time.
- 9.Cooling: Press the button, the cooling fan start exhaust.
- 10.Mixing: Press the button,mixing motor will drive the mixing blade begin to rotate.



5. GETTING STARTED

GENERAL STEPS IN COFFEE ROASTING

SOME COMMON TERMS USED IN ROASTING PROCESS:

PREHEAT: BEFORE ROASTING COFFEE THE DRUM MUST BE PREHEATED

CHARGE: REFERS TO WHEN BEANS ARE DISCHARGED FROM HOPPER INTO DRUM FOR ROASTING

SOAK: A RELATIVELY NEWER TERM USED WHEN CHARGING BEANS INTO DRUM WHILE GAS OR ELECTRIC HEAT IS TEMPORARILY SET LOW TO OFF TO ALLOW BEANS TO EVENLY ABSORB HEAT (THIS IS AN OPTIONAL METHOD USED BY SOME IN ROASTING COFFEE)

TURN AROUND: (ALSO CALLED TURNING POINT) THIS IS THE POINT AFTER BEANS ARE CHARGED INTO A PREHEATED DRUM AND DRUM TEMPERATURE DROPS DUE TO COOLER BEANS FILLING DRUM BUT ONCE THE TEMPERATURE DROP STOPS AND BEGINS TO RISE THIS IS THE TURNING POINT

3 PHASES OF ROASTING:

DRYING PHASE:

FROM THE TIME BEANS ARE CHARGED INTO DRUM UNTIL THEY REACH A TEMPERATURE OF 320F (160C) SOME ROASTERS CONSIDER 330F TO BE END OF DRYING PHASE

MAILLARD PHASE:

ALSO CALLED MAILLARD REACTION OR BROWNING PHASE. THIS IS THE TIME AFTER DRYING PHASE WHEN BEANS BEGIN TO TURN VARIOUS SHADES OF BROWN UNTIL FIRST CRACK

ROASTING PHASE:

ROASTING PHASE IS THE MOST CRITICAL PHASE WHERE CHANGES OCCUR EVERY FEW SECONDS. ROASTING PHASE BEGINS AT FIRST CRACK AND CONTINUES UNTIL YOU RELEASE BEANS INTO COOLING TRAY.

FIRST CRACK: WHEN BEANS HIT A TEMPERATURE GENERALLY BETWEEN 375F-400F (AROUND 196C (385F) EXTERNALLY AND AROUND 356F INTERNALLY. (SOUNDS LIKE POPCORN POPPING)

SECOND CRACK: 2ND CRACK BEGINS AROUND 440-445F AND PRODUCES A LIGHTER SOUND WE CONSIDER MORE LIKE A SNAP (LIKENED TO RICE KRISPIES IN MILK- SNAP, CRACKLE, POP)

IMPORTANT WARNING:

IF TAKING ROAST TO 2ND CRACK BE EXTREMELY CAREFUL AS IN JUST A MATTER OF SECONDS THE ROAST CAN BECOME SO HOT A FIRE CAN ERUPT!

ALARM ON ROASTER:

WHEN STARTING THE GAS IN A GAS ROASTER YOU WILL TURN ON THE GAS VALVE SLIGHTLY* (ONLY ON BC-1 TO 5 ROASTERS) THEN PRESS IGNITER BUTTON. IF ROASTER DOES NOT LIGHT WITHIN 3-4 SECONDS THE IGNITER SHUTS OFF GAS TO BURNER ROOM AND SETS OFF AN ALARM TO PREVENT EXCESSIVE GAS FROM BUILDING UP IN BURNER ROOM. IF THIS OCCURS TURN OFF IGNITER BUTTON AND TRY RESTARTING MAKING SURE YOU HAVE PROPER AIRFLOW AND GAS PRESSURE TO START BURNERS

(VERY IMPORTANT: A DIFFERENT PROCESS IS WHEN USING A BC-8 THRU 135 SEE INFORMATION BELOW ON USING A BC-8-135)

MANUAL DIAL DAMPER SYSTEM

IN 2018 WE ADDED MANUAL DIAL DAMPER SYSTEMS TO MOST ROASTERS SMALLER THAN THE BC-35 AS WE FOUND THE STEPLESS AIRFLOW CONTROLLER WAS NOT A VERY ACCURATE SYSTEM FOR AIRFLOW.

ON THE BC-2 MODEL AS OF 2022 AND THE BC-3-5 MODELS FROM 2018 TO 2021 WE LEFT THE AIR VOLUME CONTROL KNOB (HOT AIR VOLUME ADJUSTMENT KNOB) ON CONTROL PANEL TO ALLOW YOU TO TURN OFF THE FAN SPEED WHILE EMPTYING CHAFF UNIT)

ON THESE MODELS THE AIR VOLUME ADJUSTMENT SHOULD BE TURNED TO 100% FOR FULL FAN SPEED WHEN USING THE MANUAL DIAL DAMPER AS YOUR SOURCE FOR AIRFLOW CONTROL

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IMPORTANT CHANGES ON THE 2018 BC-1, 2, 3, 5:

THE ALL NEW MDDS AIRFLOW SYSTEM:

THE AIR NEW MANUAL DIAL DAMPER SYSTEM PROVIDES THE MOST PRECISE CONTROL OF AIRFLOW INTO YOUR ROASTER:

TO GIVE YOU GREATER CONTROL WE HAVE CHOSEN TO LEAVE THE ELECTRONIC AIRFLOW SYSTEM ON... BUT TO BEGIN WITH FOLLOW THIS PROCEDURE TO START ROAST:

1. TURN ELECTRONIC FAN SPEED ON 100%
2. TURN MANUAL DAMPER TO 30
3. START ROASTER AS OUTLINED IN MANUAL



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HOT AIR VOLUME CONTROLLER ON 2023/24 BC-8 THRU BC-25 MODELS

IN 2018 WE ADDED THE MDDS AIRFLOW SYSTEM ON BC-1 AND UP MODELS AS THE GOVERNORS FOR FAN SPEED CONTROL WAS NOT VERY ACCURATE. BUT IN THE 2023/24 MODEL BC-8 THRU 25 MODELS WE HAVE ADDED A NEW SYSTEM USING A 3 PHASE CHAFF FAN SETUP AND A FREQUENCY CONVERTER TO ALLOW FOR SMOOTH ELECTRONIC AIRFLOW CONTROL OF BC-8 THRU 25 MODELS. THIS GIVES YOU THE OPTION TO USE EITHER THE MANUAL DAMPER OR THE ELECTRONIC AIR VOLUME CONTROL KNOB TO CONTROL AIRFLOW.

IN GENERAL WE RECOMMEND YOU USE ONLY ONE OR THE OTHER OPTION.
BUT PERSONS WITH MUCH EXPERIENCE IN USING THESE ROASTERS MAY DECIDE TO COMBINE BOTH METHODS IN THEIR ROASTING ARTISTRY FOR AIRFLOW CONTROL.

NOTES ON AIR FLOW WHILE ROASTING:

LISTED BELOW ARE SOME NOTES AND OPINIONS ON AIR FLOW DURING ROASTING OF COFFEE BEING PROVIDED AS A GENERAL GUIDE. AS MENTIONED ABOVE THERE IS NO EXACT SCIENCE WITH REGARD TO AIR FLOW AND IT IS PART OF THE ART AND CRAFT DEVELOPED OVER TIME BY EACH ROAST-MASTER. BUT HERE ARE SOME GUIDELINES TO GET YOU STARTED:

YOU MUST USE AIR FLOW OF AT LEAST 20% ON ALL GAS ROASTERS OR FLAME WILL BE STARVED OF OXYGEN AND GO OUT.

AIRFLOW SETTINGS ON THE MANUAL DIAL DAMPER: YOU MAY NEED TO TURN MANUAL DAMPER TO THE LOW SETTING OR A BIT HIGHER WHEN FIRST STARTING THE BURNERS TO LIGHT ROASTER THE FIRST TIME AT START OF DAY. ONCE STARTED YOU CAN ADJUST AIRFLOW TO AROUND 20% OR SO DEPENDING ON ROASTER SIZE

SUGGESTED AIRFLOW SETTINGS ON ROASTER DURING ROASTING PROCESS:

2-4: CHARGE THRU DRYING PHASE (CHARGE TO 320F)

3-6: MAILLARD PHASE (BROWNING PHASE) 320F TO FIRST CRACK

*5-8: ROASTING PHASE (FIRST CRACK UNTIL DROPPING BEANS INTO COOLING) ***NEWER ROASTERS THAT HAVE MORE POWERFUL CHAFF FANS MAY NOT ALLOW YOU TO TURN AIRFLOW AS HIGH ON FULL ROASTS.**

CONDUCTIVE HEAT:

DURING THE FIRST PART OF ROAST YOUR MAIN SOURCE OF HEAT IS CONDUCTIVE (MASS TOUCHING MASS) THIS IS ESPECIALLY TRUE DURING PART OF THE DRYING PHASE. THEREFORE IT'S BEST TO GENERALLY KEEP AIRFLOW LOW (2-3). IF YOU TURN UP AIRFLOW HIGH DURING THIS PHASE IT MAY SLOW THE ROR (RATE OF RISE) AS YOU WILL BE PULLING COOLER AIR INTO DRUM. (YOU MAY NOTE BT CLIMBING SLOWER AND EVEN SEE THE HOT AIR OR ET TEMPS DROP)

THE DRYING PHASE MAY LAST FROM AVERAGE 3.5-7 MINUTES DEPENDING ON SIZE OF ROAST AND ROASTER TYPE.

PREHEATING DRUM:

WHEN FIRST STARTING ROASTER ALLOW SUFFICIENT TIME TO PREHEAT ROASTER SO THE METALS IN DRUM ARE GENERALLY AROUND 350-400F. (JUST BECAUSE THE PROBES SHOW 350-400F DOES NOT MEAN THE METALS HAVE HEATED THIS MUCH)

DEPENDING ON AMBIENT TEMPERATURE IN YOUR BUILDING THIS MAY TAKE 15 MINUTES OR LONGER.

ONE WAY TO TEST THAT DRUM IS WITHIN THE CHARGING RANGE YOU WANT ON THE INITIAL ROAST IS AFTER PREHEATING YOU CAN TURN OFF GAS AND LOWER AIRFLOW TO ZERO AND WAIT A MOMENT OR SO TO MAKE SURE TEMPERATURE STABILIZES.

PICTURE AT RIGHT SHOWS TEMPERATURE STABILIZING AFTER PREHEAT:



STARTING & PREHEATING ROASTER: **GAS ROASTER: (BC-1 TO BC-5 ONLY)**

1. AFTER SETTING UP ROASTER PROPERLY AND CONNECTING GAS LINES AND EXHAUST PROPERLY & SAFELY TESTING ALL LINES AND CONNECTIONS YOU MAY BEGIN ROASTING
2. **MAKE SURE EMERGENCY STOP IS NOT ENGAGED. IF SO TURN CLOCKWISE TO UNLOCK**
3. TO BEGIN PRESS ON POWER BUTTON
4. OPEN GAS VALVE JUST A BIT & MAKE SURE AIRFLOW IS SET TO 1-2 (10-20%)
5. PRESS IGNITER BUTTON (BAKING OR ROASTING BUTTON ON SOME PANELS)
6. IF BURNERS DO NOT LIGHT IN 3-4 SECONDS THE IGNITER WILL CLOSE SOLENOID TO PREVENT GAS BUILDUP IN BURNER ROOM AND **SOUND ALARM**. IF THAT OCCURS TURN OFF IGNITER BUTTON AND THEN RETRY. ON FIRST COLD STARTUPS IT MAY REQUIRE YOU TURN UP/DOWN AIRFLOW UNTIL BURNERS LIGHT.
7. ONCE BURNERS LIGHT TURN UP GAS VALVE TO ALLOW DRUM TO PREHEAT QUICKER BUT KEEP AIRFLOW LOW AT 2-3.
8. ONCE PROPERLY PREHEATED YOU ARE READY TO ROAST. SEE BELOW FOR GENERAL ROASTING INSTRUCTIONS

STARTING & PREHEATING ROASTER: **ALL ELECTRIC ROASTER** **(BC-3.5-5)**

1. AFTER ENSURING YOU HAVE CONNECTED TO THE PROPER ELECTRIC SOURCE (220V SINGLE PHASE 30A DEDICATED POWER) AND HAVE PROPER EXHAUST SETUP AND HAVE TESTED ALL ELECTRIC COMPONENTS YOU ARE NOW READY TO PREHEAT ROASTER
2. **MAKE SURE EMERGENCY STOP IS NOT ENGAGED. IF SO TURN CLOCKWISE TO UNLOCK**
3. TURN ON THE HEATING BUTTON.
4. TURN UP HEATING REGULATOR KNOB TO 100% (WHEN TURNING ON THE POWER METER WILL TURN ON AFTER IT GETS HIGHER VOLTAGE TO DISPLAY VOLTAGE AND WATTAGE)
5. KEEP AIRFLOW LOW (GENERALLY AT 0-1 DURING PREHEAT TO HEAT DRUM)
6. GENERALLY IT WILL TAKE 25-30 MINUTES TO PREHEAT DRUM WHEN AMBIENT TEMPERATURE IS 70-80F OR ABOVE. IN COLDER LOCATIONS IT MAY TAKE LONGER
7. ONCE PROPERLY PREHEATED YOU ARE READY TO ROAST. SEE BELOW FOR ELECTRIC ROASTING INSTRUCTIONS



2019-2021 ELECTRIC CONTROL



2022 ELECTRIC CONTROL PANEL



SETTING UP YOUR MACHINE:

YOUR MACHINE WILL ARRIVE MOSTLY ASSEMBLED. THE DIRECT CONNECT CHAFF UNIT WILL BE ATTACHED TO ROASTER ON MODELS BC-1 THRU 5. BUT YOU WILL NEED TO PUT CHAFF FAN UNTO TOP OF CHAFF UNIT. (SOME MODELS JUST SIT ON CHAFF UNIT AND OTHERS MAY ATTACH WITH BOLTS OR THUMBSCREWS)



IMPORTANT:
Always connect aviation plug to roaster while unit is unplugged.
Never attach or remove aviation plug when unit is plugged in or machine is on.



BC-8 THRU 35 AND LARGER MODELS:

CHAFF UNIT ARRIVES DETACHED FROM ROASTER TO HELP MAKE IT EASIER TO GET ROASTER THRU DOORWAYS TO THE LOCATION YOU PLAN TO USE IT. BUT SETUP IS VERY EASY ONCE ROASTER IS AT ITS FINAL LOCATION. JUST SET CHAFF UNIT UPRIGHT AND CONNECT WITH FERRULE CLAMP AND SILICON GASKET.



GENERAL ROASTING PROCESS: GAS ROASTERS

BC-1 THRU BC-5

3 KEY PHASES DURING ROASTING

- A. **DRYING PHASE (CHARGE TO 320F)**
- B. **BROWNING OR MAILLARD PHASE (320F TO 1ST CRACK)**
- C. **ROASTING PHASE (FIRST CRACK TO END ROAST)**

1. PREHEAT ROASTER TO DESIRED CHARGE TEMPERATURE (GENERALLY AROUND 350-400F. FOR DECAF COFFEES WE RECOMMEND 50-75F LOWER SUCH AS 275-325F)
2. MAKE SURE YOUR AIRFLOW SETTINGS ARE CORRECT & **DRUM SPEED** AT 70-80%
3. OPEN HOPPER GATEWAY AND CHARGE RAW BEANS INTO DRUM. THEN CLOSE HOPPER. FOR THE NEXT 3.5-7 MINUTES YOU WILL BE GOING THROUGH THE **DRYING PHASE**.
4. WHEN CHARGING AMBIENT TEMPERATURE RAW BEANS INTO DRUM THE BT TEMPERATURE WILL DROP QUICKLY. AT THIS POINT SOME ROAST MASTERS CHOOSE EITHER TO HAVE GAS PRESSURE ON EITHER LOW, HIGH OR IN SOME CASES NOT ON AT ALL FOR A PERIOD OF TIME DEPENDING ON THEIR OWN ARTISTIC METHODS OF ROASTING. (FOR ALL PRACTICAL PURPOSES WE WILL DESCRIBE A STANDARD ROAST WITH GAS PRESSURE ON FROM CHARGE UNTIL FINED ROASTING.)
5. IN GENERAL AFTER ABOUT 1 TO 1.5 MINUTES AFTER CHARGE THE BT TEMPERATURE WILL STOP DROPPING AND BEING TO RISE (KNOWN AS **TURNAROUND OR TURNING POINT**) FROM THIS POINT ON THE BEAN TEMPERATURE SHOULD ALWAYS RISE AND NEVER STALL OUT. IN A GENERAL ROAST MOST ROAST MASTERS WILL TRY TO TIME THE DRYING PHASE TO ABOUT 4-7 MINUTES DEPENDING ON SIZE OF ROAST AND DESIRED EFFECTS. DURING THIS TIME THE AIRFLOW IS NORMALLY KEPT FAIRLY LOW ON THE MANUAL DIAL DAMPER IN A RANGE OF 1-3.
6. DEPENDING ON TYPE OF BEANS YOU MAY FIND IT BENEFICIAL TO INCREASE AIRFLOW IF THERE IS EXCESSIVE CHAFF IN DRUM DURING DRYING PHASE.
7. AT END OF DRYING PHASE (AROUND 320F) YOU WILL BEGIN THE BROWNING OR **MAILLARD PHASE (320F TO FIRST CRACK)** GENERALLY DURING THIS PHASE YOU WILL BEGIN CUTTING BACK ON GAS PRESSURE TO SLOW THE RATE OF RISE (ROR) AND INCREASE AIRFLOW TO REMOVE MORE CHAFF AND SMOKE.
8. **FIRST CRACK:** ONCE YOU HEAR SEVERAL BEANS STARTING TO GO INTO FIRST CRACK YOU ARE NOW IN THE ROASTING PHASE (**FIRST CRACK UNTIL END OF ROAST**) DURING THIS PHASE CHANGES ARE OCCURRING FAST. SO YOU MUST CLOSELY MONITOR ROAST AS IT DEVELOPS. EVERY 15 SECONDS CHANGES ARE NOTICEABLE. OFTEN DURING THIS PHASE PEOPLE WILL INCREASE AIRFLOW AND FURTHER DECREASE GAS PRESSURE.
9. IN MOST CASES YOU WILL HEAR THE END OF FIRST CRACK. WITH SOME BEANS THERE WILL BE A PERIOD WITHOUT CRACKING WHILE IN OTHER CASES FIRST CRACK MAY BE FOLLOWED INTO 2ND CRACK. FIRST CRACK SOUNDS MORE LIKE POPCORN POPPING WHERE AS 2ND CRACK IS GENERALLY NOT AS LOUD AND MORE RAPID AND MAY SOUND MORE LIKE A SNAP, CRACKLE & POP SIMILAR TO RICE KRISPIES IN MILK TYPE SOUND.
10. IF YOU CHOOSE TO TAKE ROAST INTO **2ND CRACK** THIS IS A **VERY CRITICAL PERIOD** AS CHANGES ARE EXTREMELY RAPID AND BEANS QUICKLY CAN GO FROM A FRENCH OR ITALIAN ROAST INTO A FIRE IN DRUM IN JUST SECONDS. WE DO NOT RECOMMEND GOING BEYOND THE START OF 2ND CRACK AS THE CELLULAR STRUCTURE OF THE BEAN IS THEREBY DAMAGES AND OIL BEGINS TO COVER BEANS TAKING AWAY ALL THE WONDERFUL TASTES OF THE BEAN AND JUST GIVING A BURNT TASTE. ALSO YOU ARE GETTING VERY CLOSE TO SETTING YOUR ROASTER ON FIRE AND CAUSING DAMAGE TO IT AND POSSIBLY RISK TO YOUR BUILDING AND LIFE.

THE BEST TASTING COFFEES ARE GENERALLY ACHIEVED DURING OR JUST AT END OF FIRST CRACK. (BEFORE THE START OF 2ND CRACK) SOME BEAN VARIETIES HOLD THEIR TASTES INTO THE BEGINNING OF 2ND CRACK. MANY ROASTER-MASTERS ARE NOT ENDING ROAST AT THE BEGINNINGS OF FIRST CRACK (395-410F) FOR MORE OF THE FRUITY TYPE TASTES IN SOME ORIGINS.

IMPORTANT: ALWAYS REMEMBER TO COOL ROASTER DOWN AT END OF DAY TO AVOID DAMAGE TO ROASTER ELECTRONICS. THIS MAY REQUIRE RUNNING COOLING FANS FOR 30-60 MINUTES WITH DRUM & HOPPER DOOR OPEN

ROASTING WITH ALL ELECTRIC ROASTERS

THE BC-3.5 & BC-5 ARE THE ONLY BC ROASTERS THAT COME IN AN ALL ELECTRIC MODEL. WHY CHOOSE ELECTRIC? GENERALLY A GAS (NATURAL GAS OR LPG) ROASTER IS THE BEST CHOICE FOR PRODUCTIVE COFFEE ROASTING. BUT SOME LOCATIONS DO NOT ALLOW A GAS ROASTER TO BE USED. IN THIS CASE THE ALL ELECTRIC ROASTER WILL BE YOUR ONLY OPTION. WHILE YOU CAN ACHIEVE THE SAME QUALITY ROASTS IN AN ELECTRIC MODEL AS IN GAS THERE ARE SOME DIFFERENT PROCEDURES OR STEPS IN THE PROCESS NEEDED TO GET THE MOST OUT OF YOUR ALL ELECTRIC ROASTER.

ELECTRIC ROASTERS IN GENERAL DO NOT HAVE THE POWER THAT GAS ROASTERS HAVE AND THEREBY REQUIRE LONGER PREHEAT AND ROASTING TIMES. ALSO YOU WILL NEED TO KEEP AIRFLOW LOWER SO AS NOT TO PULL OUT HEAT FROM DRUM THAT IS ACHIEVED BY THE CONDUCTIVE HEATING.

ROASTING WITH THE ALL ELECTRIC BC UNITS:

IT'S IMPORTANT TO NOTE THAT ROASTING ON THE ELECTRIC ROASTER IS DIFFERENT THAN ON GAS MODEL AS AIRFLOW WILL BE MUCH DIFFERENT AND SO WILL ROAST TIMES

PREHEAT:

1. POWER ON MACHINE.
2. MAKE SURE DRUM SPEED IS TURNED ON AND BEST TO HAVE SPEED ROUND 7-8 (70-80%)
3. NEXT TURN ON AIR VOLUME CONTROL TO 100% (ON MODELS 2021 OR OLDER) BUT LEAVE MANUAL DIAL DAMPER TO 0 OR 1 AT MOST (SOME ELECTRIC MODELS MAY NOT HAVE A FAN SPEED CONTROLLER)
4. TURN ON ROASTING BUTTON WHICH POWERS ON THE HEAT TUBES
5. TURN THE HEAT REGULATOR TO 10 TO PREHEAT BURNERS
6. PREHEAT TIMES MAY TAKE 20-30 MINUTES OR LONGER. YOU WILL WANT TO PREHEAT THE BT (BEAN TEMPERATURE ABOVE DESIRED CHARGE POINT ON FIRST ROAST. FOR EXAMPLE IF YOUR CHARGE POINT IS 350F ITS BEST ON FIRST ROAST TO PREHEAT BEAN TEMP TO 400F. (THIS MAY VARY DEPENDING ON BEAN TYPE AND SIZE OF ROAST)
7. CHARGE YOUR BEANS INTO DRUM (BT WILL DROP AS YOU ARE ADDING COOL BEANS INTO DRUM)
8. **START TIMER**
9. **DRYING PHASE:** THIS IS WHERE YOUR BEANS GO FROM RAW GREEN TO YELLOW. GENERALLY THIS CAN TAKE FROM 4-7 MINUTES DEPENDING ON SIZE OF ROAST AND DESIRED EFFECTS. DRYING PHASE ENDS WHEN TEMPS REACH ABOUT 320F. IF DRYING PHASE IS MOVING TO FAST DECREASE HEAT AND/OR INCREASE AIRFLOW.
10. TAKE NOTE OF TURN AROUND TIME (TURNING POINT). THIS IS WHERE THE TEMPS ON BT STOP DROPPING AND START TO INCREASE. GENERALLY THIS OCCURS IN LESS THAN 2 MINUTES.
11. **MAILLARD PHASE (BROWNING PHASE):** THIS IS FROM 330F TO FIRST CRACK. THIS CAN AVERAGE FROM 2-4 MINUTES. AS ROAST GETS NEAR FIRST CRACK (BT OF 375-400F DEPENDING ON BEAN TYPE) YOU MAY WISH TO INCREASE DRUM SPEED TO 80 OR 85. GENERALLY ABOUT 10%. THIS SHOULD HELP TO INCREASE TEMPERATURE AS IT GETS READY TO GO INTO FIRST CRACK AND WILL RELEASE MOISTURE FROM BEANS.
12. **ROASTING PHASE:** THIS IS THE MOST CRITICAL PHASE AS BEANS CHANGE EVERY 15-20 SECONDS. SO YOU SHOULD BE CHECKING THE APPEARANCE VERY 15 SECONDS OR SO. (REFER TO MANUAL ON LEVELS OF ROAST) SOME COFFEES WILL BE READY WHEN BT REACHES 400F WHILE OTHERS MAY GO UP TO 435F OR MORE DEPENDING ON THE ROAST PROFILE YOU WANT.
13. WHEN BEANS ARE AT THE TEMPERATURE AND COLOR YOU WANT TURN ON COOLING FAN MOTOR AND MIXING ARMS AND DROP BEANS INTO COOLING TRAY.
14. ONCE ALL BEANS ARE OUT OF DRUM CLOSE DRUM DOOR AND YOU SHOULD BE READY TO CHARGE A NEW ROAST.
15. WHEN DONE ROASTING AT THE END OF DAY YOU MUST COOL ROASTER BEFORE TURNING OFF. TURN OFF THE ROASTING BUTTON AND TURN THE HEAT REGULATOR TO 0 AND TURN UP MANUAL DAMPER TO LET 100% AIRFLOW INTO DRUM. ALSO YOU CAN OPEN DRUM DOOR AND HOPPER TO HELP SPEED UP COOLING PROCESS. IT MAY TAKE 30 MINUTES OR MORE TO COOL DRUM BEFORE TURNING ROASTER OFF. (SOME PEOPLE ALSO USE A SMALL ELECTRIC FAN PLACED IN COOLING TRAY TO BLOW COOL AIR THRU OPEN DRUM DOOR TO SPEED UP COOLING TIME AT DAYS END)

AIRFLOW ON AN ELECTRIC ROASTER:

GENERALLY ON AN ELECTRIC ROASTER YOU WILL NOT NEED TO TURN AIRFLOW UP VERY HIGH DURING ENTIRE ROAST. MAYBE DURING DRYING PHASE YOU CAN KEEP MANUAL DIAL DAMPER AT 1-2. DURING MAILLARD PHASE YOU MAY WISH TO INCREASE THIS A BIT TO REMOVE SMOKE AND CHAFF (2-4) DURING ROASTING PHASE YOU CAN CHOOSE THE AIRFLOW BUT RARELY WOULD YOU NEED TO GO ABOVE 5-6.

NEVER ALLOW AIRFLOW TO SLOW OR STALL MOMENTUM OF ROAST AS THIS WILL EFFECT FLAVORS AND MAY GREATLY INCREASE ROAST TIME.

FOR MORE DETAILS WATCH THE MANY VIDEOS ON THE BUCKEYECOFFEE.COM SITE AS WELL AS MEMBERS PAGE ON BCROASTERS.COM. IF YOU NEED HELP FEEL FREE TO EMAIL THE TECH DEPARTMENT AT:

TECH@BUCKEYECOFFEE.COM

SPECIALTY COFFEE ROASTING & THE ART OF ROASTING

THIS MANUAL IS FOR GENERAL PURPOSE & INSTRUCTION. WE DO NOT ATTEMPT TO GET INTO DETAILED ROASTING OR THE ART OF ROASTING AS THAT IS A VERY SUBJECTIVE SUBJECT. USE YOUR LEARNED SKILLS WHILE FOLLOWING BASIC ROASTING PRINCIPLES TO CONTINUE TO DEVELOP THE ART OF ROASTING.

EXAMPLES:

AS WE CONTINUE INTO THE 21ST CENTURY NEW METHODS OF ROASTING ARE DEVELOPED BY ROAST MASTERS AND LISTED BELOW ARE JUST A COUPLE:

1. **WHITE COFFEE:** FOR YEARS THERE HAVE BEEN LIGHT ROASTS. BUT WHITE COFFEE IS ABOUT THE LIGHTEST FORM OF COFFEE ROASTING WE KNOW OF AT PRESENT. COFFEE IS HEATED ONLY TO ABOUT 335F (BASICALLY THE END OF DRYING PHASE)
2. **THE SOAK:** THIS HAS BECOME A POPULAR METHOD USED DURING ROASTING OVER THE PAST FEW YEARS. BASICALLY IT AMOUNTS TO CHARGING THE BEANS INTO DRUM ROASTER EITHER WITH ALL HEAT TURNED OFF OR TURNED VERY LOW (AFTER PREHEAT) AND SLOWLY TURNED ON OVER TIME OR CHARGING INTO A ROASTER WITH LOW GAS PRESSURE ON AND SLOWLY RAMPING IT UP. (LOW TO NO GAS SETTINGS FOR THE FIRST 30 TO 45 SECONDS OF ROAST)

LIKELY THERE ARE MANY OTHER METHODS YOU COULD ADD TO THIS SHORT LIST. BUT THE ART OF ROASTING IS NOT COVERED IN THIS GENERAL MANUAL. WE SUGGEST CONSULTING WITH EDUCATION SITES AND TRAINING PROGRAMS FOR MORE INFORMATION.



COFFEE ROASTING BEAN CHART:

1.GREEN COFFEE- ONLY BUY QUALITY RAW ARABICA BEANS FROM TRUSTED SUPPLIERS

2.BEANS BEGIN TO PALE AFTER ROASTED FOR SEVERAL MINUTES

3.EARLY YELLOW- YOU WILL BEGIN TO SMELL GRAIN ROASTING SCENT IN AIR

4.YELLOW-TAN

5.LIGHT BROWN

6. BROWN

7.1ST CRACK STARTS (SEE BEAN HAS EXPANDED IN SIZE)

8.FIRST CRACK DONE- SOME COFFEES PRODUCE LOUD CRACKS FOR A MINUTE OR LONGER WHILE OTHERS ARE RELATIVELY SOFT QUIET AND YOU MUST LISTEN CLOSE TO HEAR. ANY TIME AFTER FIRST CRACK YOU MAY CHOOSE TO END ROAST. GENERALLY YOUR SUPPLIER WILL INFORM YOU WHAT IS THE 'SWEET SPOT' FOR ENDING ROAST. FROM THIS POINT ON YOU CAN TAKE SAMPLES OF ROAST FROM SAMPLE SPOON EVERY 30 SECONDS OR SO TO CUP LATER FOR TESTING.

9.CITY ROAST

10.CITY PLUS

11.FULL CITY

12.FULL CITY PLUS AND 2ND CRACK: (AROUND THIS TIME SECOND CRACK MAY BEGIN. SOME BEANS BEGIN 2ND CRACK RIGHT AFTER FIRST CRACK ENDS AND YOU CAN NOT EVEN TELL THAT SECOND CRACK HAS BEGUN. OTHERS START 2ND CRACK WITHIN ABOUT 3 MINUTES

(AFTER FIRST CRACK BEGINS. 2ND CRACK IS VERY LIGHT AND QUIET YOU MAY NOT HEAR MUCH CRACK OR ANY AT ALL)

13. VIENNA- LIGHT FRENCH (THESE CHANGES NOW TAKE PLACE VERY QUICKLY PERHAPS IN 15-30 SECONDS)

14. FULL FRENCH (ALMOST COMPLETELY BURNT. IF YOU DONT PULL NOW YOU WILL SOON BE THROWING ENTIRE BATCH AWAY. REMEMBER: BEANS STILL ROAST A BIT WHILE IN

COOLING TRAY. IT IS ALWAYS BEST TO PULL BEANS AND END ROAST JUST AHEAD OF DESIRED ROAST)

15. CHARCOAL=DEAD

16. CALL THE FIRE DEPARTMENT YOU ARE READY TO IGNITE!!!

**ALWAYS COOL ROASTER TO ROOM TEMPERATURE AT END OF DAY:
OPEN DRUM DOOR AND HOPPER AND TURN UP FAN. THIS MAY TAKE
30-60 MINUTES (LONGER ON DOUBLE WALL DRUM ROASTERS)**

NOTES ON AIR FLOW WHILE ROASTING:

LISTED BELOW ARE SOME NOTES AND OPINIONS ON AIR FLOW DURING ROASTING OF COFFEE WE PROVIDE AS A GENERAL GUIDE. AS MENTIONED ABOVE THERE IS NO EXACT SCIENCE WITH REGARD TO AIR FLOW AND IT IS PART OF THE ART AND CRAFT DEVELOPED OVER TIME BY EACH ROAST-MASTER. BUT HERE ARE SOME GUIDELINES TO GET YOU STARTED:

YOU MUST USE AIR FLOW OF AT LEAST 10-20% ON ALL GAS ROASTERS OR FLAME MAY BE STARVED OF OXYGEN AND GO OUT OR EVEN WORSE BACK FLASH AND POSSIBLY CAUSE DAMAGE TO IGNITER WIRING.

AIRFLOW ON ROASTERS WITH A MANUAL DIAL DAMPER:

THE NEWER MANUAL DIAL DAMPER SYSTEMS (ON ROASTERS FROM 2018 AND NEWER ON MOST MODELS) ALLOW FOR A MUCH BETTER PRECISE AIRFLOW THAN THE OLDER STEP-LESS FAN SPEED WHICH WAS VERY HARD TO CONTROL AND REALLY ONLY ALLOWED ABOUT 3 SETTINGS DESPITE THE POTENTIOMETER SHOWING SPEEDS OF 0-100 (OR 0-10).

BC-1 & 2 MODELS AND OLDER 2021 BC-3.5 & 5 MODELS:

TO OPERATE YOUR ROASTERS AIR FLOW IF YOUR ROASTER HAS BOTH THE FAN SPEED CONTROL AND MDDS DAMPER TURN FAN SPEED TO 100 AND USE ONLY THE DAMPER FOR AIRFLOW.

DEPENDING ON THE TYPE ROASTER YOU MAY NEED TO TURN THE MANUAL DAMPER FROM 2-4 TO ALLOW ENOUGH AIR TO START GAS ROASTER (ELECTRIC ROASTERS ARE MUCH DIFFERENT AND ARE DISCUSSED IN A DIFFERENT NOTE).

ONCE FLAME OR BURNERS ARE LIT YOU MUST ALWAYS KEEP SOME AIRFLOW ON TO KEEP BURNERS RUNNING AND PULLING FLAME TO DRUM AS WELL AS AIRFLOW THROUGH DRUM. BUT AS A GENERAL GUIDE PLEASE CONSIDER THE SETTINGS BELOW:

AIRFLOW SETTINGS ON THE MANUAL DIAL DAMPER: YOU MAY NEED TO TURN MANUAL DAMPER TO 4-6 OR HIGHER TO START FLAME BUT THEN CAN ADJUST DOWN DURING DRYING PHASE OF ROAST

2-3: CHARGE THRU DRYING PHASE (CHARGE TO 320F)

3-5: MAILLARD PHASE (BROWNING PHASE) 330F TO FIRST CRACK

5-8: ROASTING PHASE (FIRST CRACK UNTIL DROPPING BEANS INTO COOLING)

ON THE NEWER 2022 AND FUTURE HD MODELS WITH HEAVY DUTY CHAFF FAN YOU MAY NOT NEED TO OPEN AIRFLOW VALVE AS WIDE.

CONDUCTIVE HEAT:

DURING THE FIRST PART OF ROAST MUCH OF THE HEAT IS CONDUCTIVE (MASS TOUCHING MASS) THIS IS ESPECIALLY TRUE DURING DRYING PHASE. THEREFORE IT'S BEST TO GENERALLY KEEP AIRFLOW LOW (2-3). IF YOU TURN UP AIRFLOW HIGH DURING THIS PHASE IT MAY SLOW THE ROR (RATE OF RISE) AS YOU WILL BE PULLING COOLER AIR INTO DRUM. (WITH TOO MUCH AIR FLOW YOU MAY NOTE BT CLIMBING SLOWER AND EVEN SEE THE HOT AIR OR ET TEMPS DROP DURING THE EARLY STAGES OF ROAST. THE DRYING PHASE MAY LAST FROM AVERAGE 3.5-7 MINUTES DEPENDING ON SIZE OF ROAST AND ROASTER TYPE.

CONVECTIVE HEAT INCREASE:

DURING THE MAILLARD OR BROWNING PHASE THE MOMENTUM OF ROAST IS PICKING UP AND YOU AND YOU MAY BE ABLE TO SLOWLY INCREASE THE AIR FLOW TO PULL EXCESSIVE CHAFF OUT OF DRUM AND INCREASING SMOKE OUT OF DRUM. BUT DO NOT GO FROM ONE EXTREME TO THE OTHER AS THIS COULD EFFECT RATE OF RISE (MAYBE BETWEEN 3-6 ON MANUAL DIAL DAMPER- LESS PERHAPS ON THE NEW HD MODELS) THE MAILLARD WILL LIKELY BE SHORTER THAN DRYING PHASE LASTING 1.5-3 MINUTES WHEN TEMPS RANGE FROM 320F. TO FIRST CRACK WHICH, DEPENDING ON BEAN, MAY BE 375-400F.

ROASTING PHASE:

THIS IS THE MOST CRITICAL POINT AS THIS WILL DETERMINE IN PART THE DEVELOPMENT OF THE FLAVORS OF ROAST. GENERALLY DURING THIS PHASE YOU WANT TO SLOW THE PROCESS KEEPING IN MIND THAT EVERY 15 SECONDS THE BEANS CHANGE MUCH AS THEY DEVELOP. AT THIS POINT SOME ROAST-MASTERS WILL INCREASE AIRFLOW FROM 5-8 (LIKELY LESS ON THE HD MODELS) WHICH WILL INCREASE THE ROR SO THEREFORE YOU WILL LIKELY REDUCE HEAT UNLESS YOU ROR WAS ALREADY SLOWING. ON SMALL ROASTERS YOU MAY EVEN CUT THE GAS COMPLETELY TO HELP SLOW THE ROR. THIS PHASE COULD LAST FROM 1.5-TO-3 MINUTES DEPENDING ON HOW DARK YOUR ROAST WILL BE AS WELL AS SIZE OF ROAST.

DRUM SPEED CONTROL

FOR ROASTERS WITH DRUM SPEED CONTROL (ALL BC-2 MODELS AND UP) FIND THE SPEED AT BEGINNING OF ROAST THAT ALLOWS BEANS TO TUMBLE IN DRUM AT ABOUT A 45 DEGREE ANGLE. NOT MOVING TO FAST OR TOO SLOW. WHEN AT THE BEGINNING OF ROAST IF DRUM SPEED IS TOO FAST WHILE BEANS ARE GETTING MOST HEAT FROM CONDUCTION YOU COULD SLOW ROR BY RUNNING DRUM TOO FAST. GENERALLY SPEAKING THERE IS NO NEED TO INCREASE THE SPEED OF DRUM ON MOST ROASTS UNLESS THAT IS PART OF YOUR ART OF ROASTING. A DRUM SPEED SET AT 70-80% USUALLY MEETS THE SPEED YOU WILL WANT DURING ENTIRE ROAST.

SOME ROAST MASTERS AS PART OF THEIR ART OF ROASTING LIKE TO TURN UP SPEED 5-10% JUST BEFORE ROAST GOES INTO FIRST CRACK. THIS MAY INCREASE ROR WHICH MAY CAUSE YOU TO WANT TO CUT BACK GAS AS WELL.

GENERAL GUIDELINES:

THESE ARE ALL JUST GENERAL IDEAS AND BASICS. MUCH THAT YOU DEVELOP IS YOUR OWN STYLE OF ART IN THE ROASTING PROCESS. IT CAN BE HELPFUL TO OBSERVE THE PROFILES OFFERED BY THE COFFEE SUPPLIERS SUCH AS ROYALCOFFEE.COM TO HELP YOU UNDERSTAND THE PROCESS.

REMEMBER THE DECISION MAKING IS BASED ON BT (BEAN TEMPERATURE)

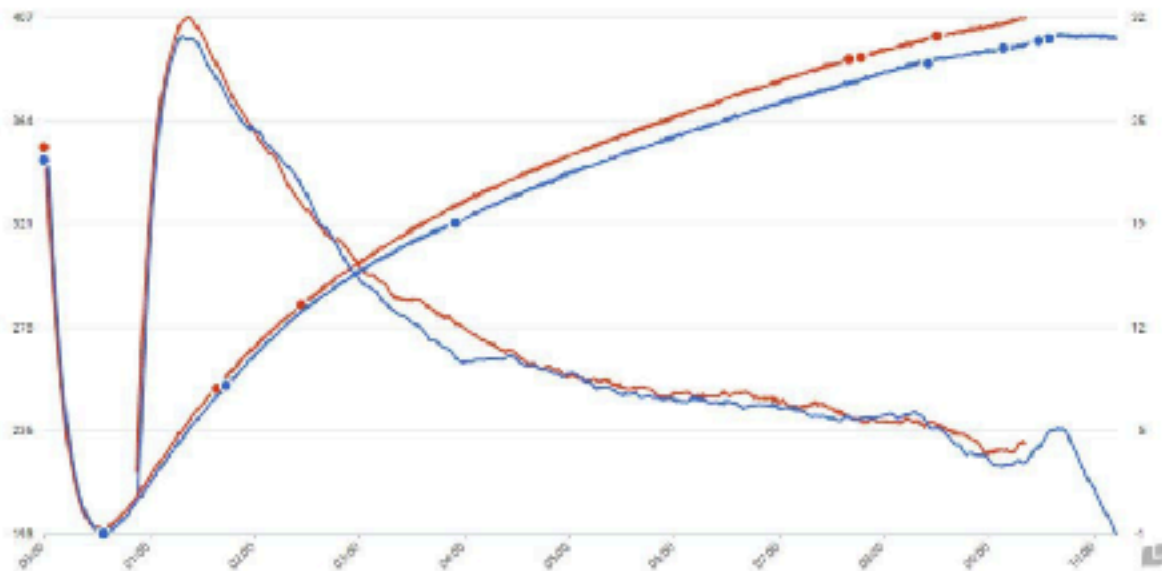
**BELOW IS JUST ONE EXAMPLE
OF A ROAST PROFILE PROVIDED
BY ROYALCOFFEE.COM**

CJ1162 - Colombia Balcón Del Cesar Mujeres Cafeteras Fully Washed Crown Jewel

October 11th, 2017 | [See This Coffee Online Here](#)

Roast one: Apple, baked lemon, butter cookie, pecan pie

Roast two: Blackberry juice, green apple, honey, vanilla, buttery texture



roast one (blue)

TIME TEMP (°F) & COMMENT

0:00 347.9 - 1 1/2 gas
0:34 192.6 - Turning Point
1:44 254.2 - 2 1/2 gas
3:55 321.8 - 3 gas
4:23 330.8 - Maillard Begins
6:25 386.1 - First Crack
9:08 384.4 - 3 1/2 gas
9:28 387.4 - 3 gas
9:34 388.3 - 2 1/2 gas
10:13 400.3 - End Roast

42.8% 4:23 **Drying Stage**
39.5% 4:02 **Maillard Reactions**
17.6% 1:49 **Post-Crack Development**
16.0% **Weight loss**

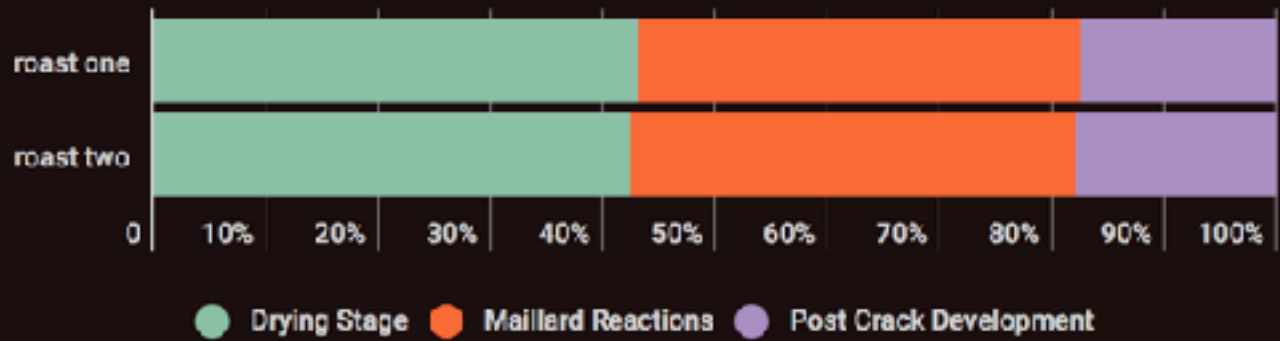
roast two (red)

TIME TEMP (°F) & COMMENT

0:00 353.2 - 2 gas
0:32 194.0 - Turning Point
1:39 252.9 - 2 1/2 gas
2:27 287.6 - 3 gas
3:58 330.3 - Maillard Begins
7:40 389.7 - First Crack
7:47 390.4 - 3 1/4 gas
8:30 398.4 - 3 gas
9:21 407.3 - End Roast

42.4% 3:58 **Drying Stage**
38.6% 3:42 **Maillard Reactions**
18.0% 1:41 **Post-Crack Development**
15.0% **Weight loss**

* Roasted on a 1 kilo Probatino in 400g batches



Maillard Reactions Begin

roast one: 4:23 @ 330.8 °F

roast two: 3:58 @ 330.3 °F



First Crack Begins

roast one: 8:25 @ 388.1 °F

roast one: 7:40 @ 389.7 °F



End of Roast

roast one: 10:13 @ 400.3 °F

roast two: 9:21 @ 407.3 °F



ColorTrack

roast one: whole bean 61.71 / ground 58.54

roast two: whole bean 63.05 / ground 57.44



Weight Loss

roast one: 16.0%

roast two: 15.0%

AIRFLOW ON ELECTRIC ROASTERS:

YOU WILL NOT WANT TO USE AS MUCH AIRFLOW WHEN DOING FULL ROASTS ON AN ELECTRIC MODEL AS YOU WANT TO MAINTAIN MOST OF HEAT IN DRUM.

DRYING PHASE:

FROM CHARGE TO 320F YOU MAY KEEP MANUAL DAMPER AS LOW AS 1 OR 2 (10 TO 20%) IF YOU NOTE EXCESSIVE CHAFF THERE IS NO HARM IN INCREASING AIRFLOW MOMENTARILY AND THEN DECREASING IT AFTER CHAFF IS PULLED FROM DRUM

MAILLARD PHASE:

DEPENDING ON ROASTER AND SIZE OF ROAST YOU MAY INCREASE AIRFLOW TO 3-4 (30 OR 40%) BUT IF DOING FULL LOADS WATCH THE ROR AND BT TO ENSURE YOU DO NOT SLOW ROAST BEYOND WHAT YOUR GOALS ARE. (MAILLARD PHASE RUNS FROM 320F TO FIRST CRACK)

ROASTING PHASE:

FIRST CRACK UNTIL END OF ROAST AND DROPPING IT INTO COOLING TRAY. DEPENDING ON YOUR GOALS AND PROFILE YOU MAY INCREASE AIRFLOW. ALSO FACTORS SUCH AS CHAFF AND SMOKE IN DRUM WILL DETERMINE HOW HIGH TO INCREASE AIRFLOW

(KEEP IN MIND ON THE NEWER 2022 HD MODELS YOU MAY NOT WANT OR NEED TO INCREASE AIRFLOW ABOVE 4 OR 5)

CREATIVE USE OF AIRFLOW IN YOUR ROASTING

THE GENERAL PRINCIPLE IS TO START OUT ROAST AT A LOWER AIRFLOW AND INCREASE IT AS ROAST DEVELOPS. WHILE YOUR ROAST MAY START TO GET MOST OF ITS HEAT AND ENERGY WITH CONDUCTIVE HEAT AT THE BEGINNING OF ROAST IT WILL ULTIMATELY GET MOST HEAT AND ENERGY FROM CONVECTIVE HEAT DURING ROAST (SOME ESTIMATES ARE UP TO 70% OF ROAST HEAT COMES FROM CONVECTIVE HEAT)

THE BEAUTY OF A DRUM ROASTER OVER THAT OF A FLUID BED ROASTER IS YOU CONTROL THE AIRFLOW TO DEVELOP THE ROAST. ON FLUID BED ROASTERS YOU BASICALLY BLAST THE ROAST FROM BEGINNING TO END WITH AIR IN ORDER TO KEEP BEANS FLOATING IN ROASTING CHAMBER. ON FLUID BED ROASTERS YOU ACTUALLY DECREASE AIRFLOW AS ROAST DEVELOPS AND BEANS GET LIGHTER SO THEY DO NOT GET SUCKED INTO THE CHAFF UNIT. BUT WITH A DRUM ROASTER AIRFLOW IS A KEY TOOL ALONG WITH HEAT TO BRING OUT THE SUBTLE FLAVORS DURING ROASTING. TO SOME EXTENT DRUM SPEED MAY BE USED AS ONE OF THE ROAST MASTERS "ARTISTS BRUSHES" AS WELL IN THE DEVELOPMENT OF ROASTING PROCESS.

A WORD ABOUT DARK ROASTS:

IN GENERAL WHEN YOU ROAST COFFEES TO A DARK ROAST YOU ARE, IN EFFECT, ROASTING AWAY MOST OF THE COFFEES UNIQUE FLAVORS AND INSTEAD NOW MAKING A ROAST WHERE THE TASTES ARE BASED ON THE ROAST RATHER THAN THE BEAN. WE KNOW THERE ARE STILL LOTS OF PEOPLE IN THE MARKET THAT DRINK AND THINK DARK COFFEE IS THE WAY COFFEE SHOULD TASTE AND THAT EDUCATING YOUR CUSTOMERS TO THE WONDERFUL FLAVORS THAT ARE NATURAL IN EACH VARIETY OR BLEND OF COFFEE ROASTED TO THE PROPER DEGREE TAKES TIME. BUT THAT IS WHAT MICRO COFFEE ROASTING IS ALL ABOUT: LETTING YOUR CLIENTS LEARN ABOUT ALL THE WONDERFUL FLAVORS BOTH IN THE CROPS AS TO WHERE THEY ARE GROWN AND HOW THEY ARE PROCESSED ONCE THE BEANS ARE PICKED. SO SHINE A LIGHT ON ALL THE BEAUTIFUL COFFEES FOUND AROUND THE WORLD AND THEIR UNIQUE FLAVORS.

ALSO KEEP IN MIND IF YOU DO DARK ROASTS OFTEN YOU MUST CLEAN AND MAINTAIN YOUR MACHINE MUCH MORE AS THE OILS AND SMOKE WILL DIRTY UP YOUR MACHINES ON THE INSIDES AND THE EXHAUSTS AND MAY REQUIRE EXTENSIVE DETAILED CLEANING EVERY MONTH OR MORE. ALSO EXPECT THE NEED TO MAINTAIN AND REPLACE PARTS AND FANS MORE OFTEN.

GAS BURNERS & TYPES OF GAS:

IN GENERAL WE RECOMMEND GAS ROASTERS OVER ELECTRIC MODELS. WITH GAS ROASTING YOU HAVE THE CHOICE OF LPG (PROPANE) WHICH ALL GAS BC MODELS COME SETUP TO RUN ON. OR YOU CAN PURCHASE A NATURAL GAS KIT AND CONVERT UNIT TO RUN ON NG (NATURAL GAS)

KEEP IN MIND THERE WILL BE SOME DIFFERENCES BETWEEN ROASTING WITH LPG OR NG.

1. **GAS PRESSURE:** NATURAL GAS IS A VERY LOW PRESSURE GAS THAT IS BROUGHT INTO BUILDING AT A PRESSURE RANGE OF 3-7WC (WATER COLUMN) IN MOST RESIDENTIAL HOMES AND MAY BE AS LOW OR 7 OR HIGHER IN A BUSINESS. PROPANE (LPG) IS A HIGH PRESSURE LIQUID PROPANE GAS (THUS LPG) AND MUST BE CUT DOWN WITH AN LPG REGULATOR. IN SOME SETTINGS YOU MAY NOT HAVE ENOUGH GAS PRESSURE IN YOUR BUILDING TO RUN A ROASTER AT FULL CAPACITY WITH NATURAL GAS. THIS MUST BE CONSIDERED BEFORE BUYING OR CONVERTING YOUR UNIT TO NATURAL GAS. ALSO WITH LPG YOU WANT A LOW PRESSURE LPG REGULATOR. WE SELL ONLY THE TYPES THAT ALLOW GAS PRESSURE UP TO 24WC (THE MARSHALL 1912/197 LPG REGULATOR IS CAPABLE TO REACH 24 WC BUT IS PRESET AT A LOWER PRESSURE AS GENERALLY MOST ROASTING IS DONE UNDER 18WC (4KPA)
2. **COLOR OF GAS FLAMES:** KEEP IN MIND THAT THE WAY THE GAS BURNS ON A NATURAL GAS ROASTER AND A LPG ROASTER LOOKS SOMEWHAT DIFFERENT. PARTLY DUE TO THE PRESSURE OF GAS AND ALSO THAT ONE IS GAS AND THE OTHER A LIQUID GAS. ALSO THE COLORS OF THE FLAMES REFLECT, IN PART THE TEMPERATURE OF HEAT)

PROPER SHUT DOWN AFTER ROASTING

EVEN THOUGH WE HAVE COVERED THIS POINT A COUPLE TIMES IN THIS STARTUP GUIDE IT IS SO IMPORTANT WE WILL COVER IT AGAIN.

1. TURN OFF ALL HEAT ON ROASTER (ELECTRIC OR GAS)
2. OPEN THE AIRFLOW ON MANUAL DAMPER FULLY TO 10
3. OPEN DRUM DOOR AND HOPPER GATEWAY
4. MAKE SURE FAN IS ON 100%
5. COOL ROASTER DRUM TO AROUND ROOM TEMPERATURE THIS MAY TAKE 30-45 MINUTES OR LONGER ON DOUBLE WALL DRUMS
6. SOME CLIENTS WILL RUN A SMALL FAN INTO DRUM DOOR TO HELP SPEED UP PROCESS
7. YOU CAN KEEP BUSY BAGGING COFFEE OR DOING OTHER JOBS WHILE ROASTER COOLS.,
8. CLEAN UNIT ONCE COOLED (OR PLAN DAILY CLEANING THE NEXT MORNING BEFORE STARTING YOUR ROAST DAY)

6.DEVELOPING THE CRAFT

BOOKS UPON BOOKS ARE WRITTEN ON THIS SUBJECT AND EVEN MORE BOOKS ARE YET TO BE WRITTEN. THE POINT IS: MANY PEOPLE HAVE SPENT AN ENTIRE LIFETIME ROASTING AND PERFECTING SKILLS IN COFFEE ROASTING. THIS IS TRULY AN ARTISANS CRAFT. SO WHETHER YOU ARE ROASTING COFFE AS A HOBBY, STARTING A NEW BUSINESS OR EXPANDING AN ALREADY SUCCESSFUL BUSINESS PEOPLE THAT ARE TRULY PASSIONATE ABOUT COFFEE ARE GIVERS AND SHARERS. THIS IS NOT A CRAFT MEANT TO BE A LOST ART. IT IS A SKILL DEVELOPED TO BE SHARED. THERE IS PLENTY OF ROOM IN THIS WORLD FOR MORE COFFEE ROASTERS AND COFFEE ROASTING COMPANIES. SO SHARE YOUR IDEAS AND LISTEN TO NEW IDEAS AND CONCEPTS. THERE IS MUCH TO BE SAID ABOUT THE WISE PROVERB:

“THERE IS MORE HAPPINESS IN GIVING THAN IN RECEIVING”

THAT IS CERTAINLY TRUE WHEN IT COMES TO SHARING A GREAT CUP OF FRESH ROASTED COFFEE AMONG PEOPLE THAT LOVE THE CRAFT. SO LISTEN AND SHARE.

LISTED BELOW ARE SOME SOURCES THAT WE ENJOY LEARNING FROM:

THE BLUE BOTTLE CRAFT OF COFFEE: GROWING, ROASTING, AND DRINKING, WITH RECIPES BOOK BY JAMES FREEMAN

THE COFFEE ROASTER’S COMPANION BY SCOTT RAO THE PROFESSIONAL BARISTA’S

HANDBOOK BY SCOTT RAO

WEBSITES:

[HTTP://WWW.COFFEEFORUMS.COM](http://www.coffeeforums.com)

[HTTP://WWW.SWEETMARIAS.COM/](http://www.sweetmarias.com/)

[WWW.BUCKEYECOFFEE.COM](http://www.buckeyecoffee.com)

[HTTP://WWW.HOME-BARISTA.COM](http://www.home-barista.com)

[HTTP://WWW.COFFEEGEEK.COM/FORUMS/](http://www.coffeegeek.com/forums/)

PLUS MANY MORE. TYPE COFFEE ROASTING FORUMS IN SEARCH ENGINE PLUS LOOK UP VIDEOS ON THE SUBJECT AT [WWW.YOUTUBE.COM](http://www.youtube.com)

EMAIL US WITH ANY QUESTIONS, CONCERNS AND IDEAS. WE BELIEVE ALL NEW IDEAS ARE WORTH A TRY! DON’T LET ANYONE DISCOURAGE YOU FROM NEW IDEAS. SOME WILL WORK OTHERS WILL NOT. BUT IF WE DON’T TRY NOTHING NEW WILL HAPPEN. WE ARE EXCITED TO HAVE YOU AMONG THE COFFEE ROASTERS OF THE WORLD AND EAGERLY LOOK FORWARD TO YOUR IDEAS AND SUGGESTIONS!

LET’S TALK COFFEE!

7. MAINTAIN YOUR MACHINE

YOUR MACHINE IS UNLIKE A TYPICAL OVEN THAT HEATS OR COOKS ITEMS. IT IS A MACHINE THAT RUNS COFFEE BEANS (SEEDS) THROUGH IT DEVELOPING A ROAST. AND IN SO DOING IT PULLS CHAFF, SMOKE AND MOISTURE OUT OF ROASTER AS THE COFFEE DEVELOPS. IT THEREBY REQUIRES **DAILY** CLEANING AS WELL AS **WEEKLY AND MONTHLY** MAINTENANCE. ALSO YOU SHOULD SCHEDULE **QUARTERLY MAINTENANCE** TO KEEP YOUR MACHINE AND ALL ITS COMPONENTS AND EXHAUST PIPES IN GOOD CONDITION. BY KEEPING UP ON PROPER MAINTENANCE YOU WILL SAVE TIME AND MONEY AND AVOID DOWNTIME THAT WILL BE CAUSED IF NOT MAINTAINED.

DAILY & WEEKLY & MONTHLY MAINTENANCE ONLY TAKES MINUTES BUT KEEP YOUR EQUIPMENT RUNNING AT ITS BEST!

BUILD A ROASTER TOOL KIT!

A GOOD TOOL KIT SHOULD **START** WITH THE FOLLOWING ITEMS:

1. GOOD GREASE GUN & HIGH TEMP GREASE
2. METRIC HEX KEY SET
3. NEEDLE NOSE PLIERS
4. CLEANING CLOTHS & SIMPLE GREEN CLEANER
5. BRUSHES TO CLEAN PARTS OF ROASTER
6. OTHER TOOLS AS WELL



THE BC MACHINES ARE MADE TO WORK FOR EXTENDED PERIODS OF TIME WITH MINIMAL MAINTENANCE. **THIS DOES NOT MEAN NO MAINTENANCE IS REQUIRED.** **DAILY MAINTENANCE IS ESSENTIAL!**

THE LIFE OF YOUR MACHINE DEPENDS ON YOU!

95% PERCENT OF ALL PROBLEMS WE GET EMAILS ON ARE DUE TO CUSTOMERS NOT MAINTAINING MACHINE. COFFEE ROASTERS USE EXTREME HEAT WITH GAS AND ELECTRIC OR ALL ELECTRIC. COFFEE ROASTING PRODUCES MASSIVE AMOUNTS OF SMOKE AND CHAFF. IF THE AIR FLOW WITH SMOKE & MOISTURE FROM COFFEE IS NOT PROPERLY CHanneled OUT OF BUILDING OR CHAFF INTO CHAFF UNITS DAMAGE WILL OCCUR. BECAUSE CHAFF IS LIKE DUST ITS DEBRIS CAN GO ALL OVER PARTS OF ROASTER INTERNALLY AND EXTERNALLY.

THEREFORE IT MUST BE MONITORED CLOSELY DURING EACH ROAST AND EVERY DAY!

CLEANING DURING AND AFTER EACH ROAST AS WELL AS DAILY MAINTENANCE:

CLEANING & DAILY MAINTENANCE

CLEANING YOUR ROASTER WILL KEEP IT RUNNING SMOOTH AND AVOID EARLY BREAKDOWN OR WEARING OUT OF MOTORS AND ELECTRONIC PARTS. BUT CARE MUST BE USED THAT WHEN CLEANING ROASTER YOU DO IT PROPERLY SO AS NOT TO DAMAGE IT.

CLEANING DURING ROASTING:

THE MOST IMPORTANT THINGS TO KEEP IN MIND WHEN ROASTING IS THAT AIRFLOW IS THE LIFE OF YOUR ROASTER. YOU MUST KEEP ALL AIRWAYS OPEN AND CLEAN OR YOU COULD DAMAGE UNIT OR WEAR OUT PARTS PREMATURELY.

EMPTY CHAFF UNIT REGULARLY. IN LITTLE ROASTERS LIKE THE BC-1 & BC-2 YOU WILL LIKELY NEED TO EMPTY CHAFF UNIT AFTER EVERY 3 ROASTS. CHECK AND EMPTY DEBRIS TRAY AFTER EACH ROAST. YOU DO NOT NEED TO TURN ROASTER OFF TO EMPTY THE DEBRIS TRAY. IN BETWEEN ROAST YOU CAN PULL OUT TRAY AND EMPTY IN A METAL WASTE CAN OR USE A SHOP VAC. TO EMPTY CHAFF UNIT WITHOUT THE NEED TO TURN OFF ROASTER JUST EMPTY WHEN GAS ON BURNERS IS OFF. (ALL ROASTERS HAVE A WAY TO TURN CHAFF FAN OFF IN BETWEEN ROASTS WHEN GAS IS OF TO EMPTY CHAFF UNIT) REMOVE CHAFF WITH EITHER A BRUSH OR SHOP VAC. BE SURE NONE OF THE CHAFF IS HOT.

DAILY CLEANING:

IT IS BEST IF YOU CAN DO CLEANING AFTER MACHINE HAS COOLED AT DAYS END. BUT IF UNIT IS STILL HOT TO THE TOUCH (DRUM HOUSING, CHAFF FAN AND SUCH) THEN IT MAY BE BEST TO CLEAN UNIT THE NEXT MORNING BEFORE STARTING UP ROASTER.

KEEPING THE LINES OF AIRFLOW CLEAN:

YOUR CHAFF FAN IS DESIGNED TO PULL SMOKE AND CHAFF INTO UNIT WITHOUT PULLING CHAFF DIRECTLY THROUGH THE FAN. BUT DESPITE THIS SOME DEBRIS AND MOISTURE WILL GATHER ON THE CHAFF FANS SQUIRREL CAGE. ON BC MODELS WITH OUR OLDER TYPE CHAFF FANS YOU SHOULD LIFT OFF FAN FROM CHAFF UNIT DAILY AND BRUSH THE DEBRIS OFF SQUIRREL CAGE. YOU MAY ALSO FIND USING A SHOP VAC TO BE HELPFUL. ON THESE 2021 AND EARLIER TYPE FANS PLUS THE BC-1 & 2 FANS IT IS GOOD EVERY MONTH TO REMOVE THE SQUIRREL CAGE AND CLEAN IT COMPLETELY IN A MILD CLEANER AND WITH A BRUSH TO REMOVE DEBRIS. THEN COMPLETELY DRY BEFORE REINSTALLING IT IN UNIT.



**CHAFF FAN RUINED DUE TO FAILURE TO MAINTAIN IT
IMPROPER OR NO MAINTENANCE WILL CAUSE FIRE HAZARDS & DESTROY EQUIPMENT**

CHAFF UNIT NOT CLEANED

MONTHLY REMOVE AND THOROUGHLY CLEAN SQUIRREL CAGE OF CHAFF FAN:



4. You may need to use a penetrating lubricant to help loosen set screw (Liquid Wrench works- DON'T USED WD-40)
ALSO HEAT FROM A HEAT GUN APPLIED TO SQUIRREL CAGE MAY HELP TO LOOSEN. Do NOT USE A HEAT



2022 CHAFF FAN UPDATE

ON THE 2022 BC-3.5 MODELS AND UP SIZES WE HAVE UPDATED THE CHAFF FANS TO A NEW HEAVY DUTY MODEL. THESE WILL NOT NEED REMOVED AND CLEANED AS OFTEN.

GENERALLY YOU CAN USE A SHOP VAC TO BLOW OUT EXCESSIVE DEBRIS THAT BUILDS UP BUT WILL ALSO NEED A HEAVY BRUSH TO CLEAN ITS SQUIRREL CAGE FROM TIME TO TIME. ` THE BC-1 & 2 MODELS WILL KEEP THE ORIGINAL TYPE CHAFF FAN.



MONTHLY & QUARTERLY CLEANING & MAINTENANCE

BY **DEVELOPING** AND **STICKING** TO A MONTHLY AND QUARTERLY MAINTENANCE PROGRAM YOU CAN AVOID THE MANY PROBLEMS EXPERIENCED BY PEOPLE THAT DO NOT MAINTAIN THEIR MACHINES.

WE HAVE SEVERAL ONLINE VIDEOS ON CLEANING AND MAINTAINING YOUR ROASTER. THESE SHOULD BE VIEWED AND FOLLOWED AS WELL AS USING THE FOLLOWING LIST AS A GUIDE TO KEEP YOUR ROASTER IN ITS TOP CONDITION.

(WATCH ONLINE VIDEOS VIA YOUTUBE: SEARCH **BC ROASTERS** & SUBSCRIBE)

MAKING A PLAN OR SCHEDULE

1. FIRST WHEN INSTALLING YOUR ROASTER ALLOW PLENTY OF SPACE TO GET TO AND WORK ON ALL PARTS OF MACHINE. GIVE YOURSELF ROOM TO WORK & WORK SAFELY.
2. YOUR PLAN MUST INCLUDE AT LEAST 3 ASPECTS: 1. EMPLOYEE SAFETY, 2. FOOD SAFETY & 3. QUALITY. MAINTAINING YOUR MACHINES PROPERLY WITH THESE 3 ASPECTS IN MIND WILL RESULT IN THE BEST PROGRAM & SCHEDULE.
3. **AIRFLOW:** JUST LIKE BREATHING AS A HUMAN IS A MUST, PROPER AIRFLOW WITHIN THE ROASTER AND ALSO THROUGHOUT THE ENTIRE EXHAUST PIPING IS A MUST AS WELL. EVERYWHERE THAT CHAFF CAN GO WITHIN MACHINE AND OUT NEEDS MAINTAINED DAILY, WEEKLY & MONTHLY.
4. MAINTAINING EVERY MOVING PART: BEARINGS, MOTORS, FANS ALL NEED KEPT CLEAN AND SOME REQUIRE PROPER GREASING ON A REGULAR BASIS.
5. STOCKING SPARE PARTS SUCH AS BEARINGS, FUSES, EVEN SPARE IGNITER PARTS CAN SAVE YOU LOTS OF TIME AND MONEY IN THE EVENT A MACHINE GOES DOWN. BY BEING PREPARED YOU CAN BE BACK UP AND RUNNING WITHIN HOURS RATHER THAN DAYS. EVEN SMALL PARTS SUCH AS EXTRA SCREWS, SETSCREWS, AND SUCH CAN SPARE YOU MUCH TIME AND STRESS. **PLAN AHEAD & BE PREPARED!**

GREASE BEARINGS:

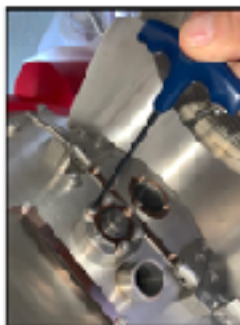
THERE ARE MANY ONLINE VIDEOS & PDF'S ON HOW TO MAINTAIN YOUR BC ROASTER THAT YOU CAN FIND ON THE TECH PAGE AT BUCKEYECOFFEE.COM AS WELL AS AT BCROASTERS.COM ON THE MEMBERS PAGE.

FOR DETAILED INFORMATION ON GREASING BOTH THE FRONT & BACK BEARING SEE THE ABOVE WEBSITES.

HERE IS JUST A BRIEF DESCRIPTION ON THIS SUBJECT:

GREASE BC-1 to 5 Front Bearings

TOP VIEW: USING A HEX KEY TO REMOVE BC COVER



ONCE COVER IS REMOVED YOU MAY WANT TO CLEAN OLD GREASE



NEXT PACK BEARING WITH FRESH GREASE & REPLACE WITH COVER



PROPER PROCEDURES FOR GREASING ROASTER BEARINGS

PROPER MAINTENANCE OF YOUR ROASTER INCLUDES GREASING THE BEARINGS EVERY 150-200 HOURS OF USE OR EVERY OTHER MONTH IF SOONER.

INSTRUCTIONS:

**WIPE ZERK FITTING CLEAN
PUSH COUPLER ON FITTING AT A
SLIGHT ANGLE
OPERATE LEVER ON GUN TO LUBRICATE
AFTER FINISHED TURN COUPLER AT
SLIGHT ANGLE TO REMOVE IT**



ZERK FITTING ON BEARINGS

USE HIGH TEMPERATURE FOOD GRADE GREASE:

**WE GENERALLY RECOMMEND A
HIGH TEMPERATURE FOOD GRADE
GREASE SUCH AS SUPER LUBE:**



3. PERMANENT PIPES NEED CLEANED WITH A PIPE BRUSH:



**ROASTING COFFEE PRODUCES MUCH CHAFF THAT WILL BE SENT
MOSTLY TO CHAFF UNIT. BUT SOME WILL FALL INTO RESIDUE
COLLECTION & HEATER HOOD COMPARTMENT. USE BRUSHES OR
A WET/DRY VACUUM TO REMOVE CHAFF AFTER EVERY FEW
ROASTS. IF YOUR COFFEE BEANS PRODUCE EXCESSIVE CHAFF
YOU MAY NEED TO CLEAN MORE FREQUENTLY.**

**NOTE: THE NEW BC-3.5 & 5 MODELS HAVE A BACK MAINTENANCE
DOOR ON THE BC-3 & BC-5 TO GET TO BACK BEARING**

**ON EACH SIDE OF ROASTER ARE SEVERAL BOLTS HOLDING
STAINLESS STEEL HOUSING ONTO UNIT.**

**REMOVE ALL BOLTS AND TAKE HOUSING OFF UNIT. BETWEEN DRUM AND
ELECTRIC ROOM YOU WILL SEE A BEARING THAT NEEDS GREASED
MONTHLY.**

ALSO PACK FRONT BEARING WITH GREASE EVERY 1.5 MONTHS!

SOME MAINTENANCE WILL REQUIRE REMOVING DRUM HOUSING



BE SURE TO KEEP MACHINE CLEAN DAILY AND COMPLETELY CLEAN ALL EXTERIOR WEEKLY AND INSIDES OF CHAFF & DEBRIS CONTAINERS ON A REGULAR BASIS. ALWAYS COOL DOWN ROASTER AT END OF DAY BEFORE TURNING OFF.

2. Wipe out cooling tray daily and brush out weekly. Use a soft brush with a poker that allows you to clean any perforated holes that may clog up with broken pieces of beans:



PALLO ROLLSTER BRUSH:

8. WARRANTY INFORMATION:

YOUR COMMERCIAL COFFEE ROASTER HAS BEEN BUILT UNDER STRICT QUALITY CONTROL MEASURES AND SHOULD ARRIVE IN THE BEST OF CONDITION FOR YEARS OF QUALITY ROASTING. IT HAS BEEN THOROUGHLY TESTED BOTH AT THE FACTORY AS WELL AS BY BC ROASTERS WHEN ARRIVING AT OUR ARIZONA FACILITY. BUT AS WITH ALL ELECTRONIC EQUIPMENT THERE IS THE CHANCE THAT AFTER RECEIVED AN ELECTRONIC COMPONENT COULD FAIL IN TIME. SO ALL NEW COFFEE ROASTERS PURCHASED BY BUCKEYE COFFEE ARE PROTECTED WITH THE MANUFACTURE PARTS WARRANTY OF ONE YEAR. THIS WARRANTY REMAINS IN EFFECT FROM THE DAY OF SHIPMENT FOR ONE CALENDAR YEAR. THIS PARTS WARRANTY WILL REMAIN VALID FOR ORIGINAL PURCHASING COMPANY AND WARRANTY IS NONTRANSFERABLE. FURTHER IF NEGLIGENCE IN MAINTENANCE OR DAMAGE CAUSED BY IMPROPER USE IS DETECTED OR DAMAGE DUE TO OVER-ROASTING AND OR FIRE SHOULD OCCUR THIS WARRANTY BECOMES VOID. ADDITIONAL WARRANTY AND SERVICE IS PROVIDED THROUGH BUCKEYE COFFEE AND ALL SERVICE CLAIMS MUST BE SUBMITTED DIRECTLY TO THEM TO HANDLE CLAIM. ADDITIONAL WARRANTY BEYOND THE ONE YEAR PARTS REPLACEMENT WARRANTY ARE LISTED BELOW:

NOTE: IF MACHINE IS MODIFIED IN ANY WAY THIS VOIDS WARRANTY

ONE FULL YEAR PARTS REPLACEMENT WARRANTY ON ALL PARTS NOT DAMAGED DUE TO NEGLIGENCE OR MISUSE OF PRODUCT. ONE YEAR IN-HOUSE SERVICE ON UNIT. BUYER IS RESPONSIBLE FOR RETURN SHIPPING COSTS FOR IN-HOUSE SERVICE AND WARRANTY REPAIRS. ONE YEAR PHONE AND INTERNET CONSULTATION OF REPAIRS. MOST MINOR ISSUES CAN BE FIXED WITH AN EMAIL TO OUR TECH DEPARTMENT. OTHER FEATURES MAY APPLY BASED ON YOUR STATE OR LOCATION. SEE CONTRACT FOR FURTHER DETAILS.

IF SERVICE IS REQUIRED FIRST EMAIL US AT:

TECH@BUCKEYECOFFEE.COM

AND PROVIDE ACCOUNT NUMBER (ON ORIGINAL INVOICE), NAME, TYPE OF EQUIPMENT AND PICTURES AND VIDEO OR DEFECT

PARTS EXCEPTION: UNLESS YOU PURCHASE AND USE A MARSHALL 1912/197 5.9 KPA LOW PRESSURE REGULATOR OR OTHER APPROVED REGULATOR BY US THERE IS NO REPLACEMENT WARRANTY ON KPA GAS VALVES ON LPG MODELS. USE ONLY LOW PRESSURE REGULATORS WITH A MAXIMUM KPA OF 5.9 (24WC)

9. AFTER WARRANTY: MAINTENANCE & PARTS

10 YEAR MINIMUM PARTS STOCK GUARANTEE

WHILE YOU MAY THINK ALL ROASTER MANUFACTURES KEEP PARTS ON HAND FOR YEARS INTO THE FUTURE UNFORTUNATELY THIS IS NOT ALWAYS THE CASE. WE AT BC ROASTERS KEEP WELL OVER \$200,000 IN PARTS ON HAND AND GET PARTS IN EVERY MONTH. THIS INCLUDES NOT ONLY THE BASIC PARTS BUT MANY RARE PARTS YOU LIKELY WILL NEVER NEED. DESPITE HAVING OVER 1000 CLIENTS AS OF 2021 WE TRY TO KEEP ALL PARTS IN STOCK FOR WARRANTY WORK AS WELLS STOCK ON HAND SO THERE WILL BE NO DELAY AS WE WAIT FOR REPLACEMENT PARTS FROM FACTORIES IN ASIA. ALL IN WARRANTY CUSTOMERS RECEIVE PRIORITY ON ALL IN STOCK PARTS BUT WE DO GUARANTEE WE WILL STOCK GENERAL REPLACEMENT PARTS ON HAND FOR ANY REPAIRS ON BC ROASTERS FOR 10 YEARS OR MORE ON THE MODEL YOU PURCHASE.

EMAIL THE PARTS OR TECH DEPARTMENT FOR THE LATEST PARTS PRICE COSTS AFTER WARRANTY EXPIRES IF YOU NEED NEW PARTS. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE BUT WE DO GUARANTEE LOWEST PRICES TO PREVIOUS CUSTOMERS.

ALSO IT IS WISE TO KEEP SOME PARTS ON HAND TO AVOID DOWNTIME. SUCH PARTS WOULD INCLUDE: FRONT & BACK BEARINGS, A SOLENOID, IGNITER & IGNITER NEEDLE.

10.TROUBLE SHOOTING & ADJUSTMENTS

| ISSUE | CAUSE/POSSIBLE REASON | REMEDIES & SOLUTIONS |
|---|---|---|
| Unit will not power on. | 1. Not Plugged in 2. Internal Circuit Breaker off | 1. Plug in, Check building breaker or 110 voltage converter if used. 2. Turn on internal circuit breaker |
| Chaff fan will not turn on | Not properly connected | 1. Always plug in chaff fan before powering on machine |
| Smoke is coming in building | Exhaust not properly setup or vented | 1. If smoke is coming out of cooling tray then exhaust is not set up correctly with a blast damper to prevent smoke from chaff unit from filling cooling tray. 2. Exhaust has blockage. Clear lines and test |
| Beans are falling into debris tray | Drum needs realigned. | 1. See manual & Video on how to realign drum |
| Drum rubs against front plate when heated | Drum needs realigned | 1. See manual & Video on how to realign drum |
| Alarm sounds as roaster flame does not light | This is a safety feature to prevent excessive gas from going into burner room | 1. Turn of igniter button then turn back on and be sure gas pressure and air is flowing through drum |
| Drum will not turn | 1. Front or back bearing has failed 2. Drum is out of alignment 3. On BC-8 models and up if power goes off you must wait 10 seconds to power roaster back on. | 1. Replace defective bearing 2. Realign drum 3. The BC-8 and up have a safety feature to avoid damaging the phase converter. Turn off power and wait 10 seconds before turning back on power |

| ISSUE | CAUSE/POSSIBLE REASON | REMEDIES & SOLUTIONS |
|---|--|---|
| GAS UNIT will not Ignite | <ol style="list-style-type: none"> 1. Gas is not on at all controls 2. Igniter is not sparking (making a buzz sound) 3. Wrong gas being used 4. KPA pressure too low or no airflow | <ol style="list-style-type: none"> 1. Check all gas connections to ensure gas is going into roaster 2. Igniter may be damaged 3. Make sure your roaster is setup for the type gas you are using 4. Make sure to start with KPA gas pressure of at least 1-2 (or 0.5 on natural gas) Also make sure you have airflow not too low or too high |
| KPA GAS PRESSURE GAUGE WONT WORK. Stuck on 0 or on a number | You may have damaged the gas gauge if you have used the wrong LPG regulator. | Use only a Marshall 1912/197 LPG regulator when running Propane Gas |
| Beans are being sucked into chaff unit | <ol style="list-style-type: none"> 1. Roasting a batch too large 2. Too much airflow | <ol style="list-style-type: none"> 1. Roast within the ranger roaster permits 2. Turn down airflow 3. If using a booster fan in exhaust turn down or off |
| ELECTRIC ROASTER turns on but barely heats up after 15-30 minutes | <ol style="list-style-type: none"> 1. Improper connection at plug 2. Not plugged into 220 with enough amperage 3. One of the burners or relays has failed. | <ol style="list-style-type: none"> 1. Make sure wiring on plug is good and properly grounded 2. Make sure you are using the correct voltage 3. Check burners to see if all are turning read as they heat up. If not you may need new burners or relays |
| Unit will not power on no matter what is done | Possible shortage in wiring or a motor or other damage to unit | <ol style="list-style-type: none"> 1. Contact Tech Support and explain details in email. 2. If after warranty you may need to have an electrician test unit with a voltage meter.41 |
| | | |
| | | |
| | | |
| | | |

FOR MORE INFORMATION ON TROUBLESHOOTING

SEE PDF'S & VIDEOS AT OUR MEMBERS PAGE & TECH PAGES LISTED BELOW:

TECH SUPPORT: [HTTP://WWW.BUCKEYECOFFEE.COM/TECH-SUPPORT---PARTS.HTML](http://www.buckeyecoffee.com/tech-support---parts.html)

MEMBERS PAGE: [HTTPS://BCROASTERS.COM/M/LOGIN?R=%2FMEMBERS-ONLY-PAGE](https://bcroasters.com/m/login?r=%2Fmembers-only-page)

11.MORE DETAILS ABOUT YOUR ROASTER

CONVERTING YOUR ROASTER TO NATURAL GAS:



ALL GAS BC ROASTERS SHIP TO CUSTOMER SETUP TO RUN ON LPG (LIQUID PROPANE GAS). LPG IS A HIGH PRESSURE GAS THAT MUST BE REDUCED TO LOW PRESSURE WITH THE USE OF AN LP REGULATOR. WE ONLY GUARANTEE THE GAS GAUGE ON AN LPG ROASTER IF USING A MARSHALL 1912/197 LPG REGULATOR AND OFFER THESE WITH EACH NEW ROASTER.

BUT SOME CLIENTS MAY WISH TO RUN THEIR ROASTER ON NATURAL GAS AS THAT IS THE TYPE GAS PIPED INTO THEIR BUILDING. TO RUN A BC ROASTER ON NATURAL GAS THE CLIENT WILL NEED TO HAVE HIS ROASTER CONVERTED USING THE NATURAL GAS CONVERSION KITS WE OFFER.

THE FOLLOWING INFORMATION COVERS WHAT PARTS ARE NEEDED FOR A CONVERSION TO NATURAL GAS AND GENERAL INSTRUCTIONS ON HOW TO SAFELY CONVERT YOUR ROASTER FROM LPG TO NG.

IMAGE: LEFT: LPG ORIFICE RIGHT:
NATURAL GAS ORIFICE

GAS FLAME COLOR:

BOTH NG & LPG BURNS WITH A BLUE COLOR.

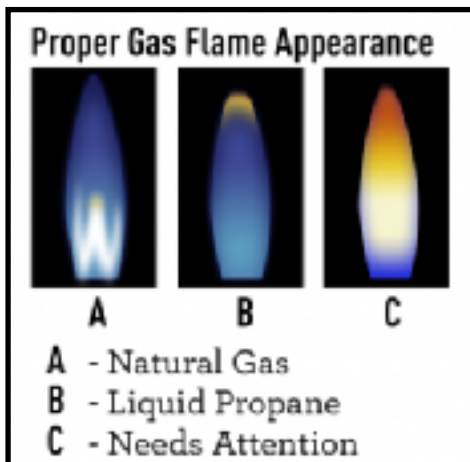
IF YOU NOTE ORANGE, RED OR YELLOW COLORS AS FLAMES MOVE FARTHER AWAY FROM BURNERS ON LPG THIS MAY NOTE TEMPERATURE CHANGE OF FLAME OR COULD INDICATE INCOMPLETE GAS COMBUSTION

IMPORTANT NOTICE BEFORE CONVERTING TO NG:

NATURAL GAS IS PIPED INTO BUILDINGS AND HOMES AT A MUCH LOWER PRESSURE THAN WHAT IS AVAILABLE WITH LPG. YOU MUST FIRST BE SURE THAT ANY EXISTING GAS LINE YOU PLAN TO USE FOR ROASTING HAS AT LEAST 7WC (WATER COLUMN) GAS PRESSURE. (SEE YOUR ROASTERS SPEC SHEET FOR RECOMMENDED GAS PRESSURE)

BTU: YOU MUST ALSO ENSURE THAT THE GAS LINE YOU ARE USING PROVIDES ENOUGH BTU TO SUPPLY YOUR ROASTER ENOUGH GAS PER HOUR FOR FULL ROASTS.

(SEE CHAPTER 12 ON IMPORTANT GAS PRESSURE NOTICE)



YELLOW FLAMES INSTEAD OF BLUE

REGULATOR PRESSURE

THE MOST COMMON CAUSE OF YELLOW FLAMES IS LOW GAS PRESSURE FROM THE REGULATOR, WHICH IS AN EASY FIX THAT YOU CAN DO AT HOME.

1. TURN OFF ALL KNOBS ON THE CONTROL PANEL IN FRONT.
2. TURN OFF THE TANK KNOB. * DISCONNECT THE REGULATOR FROM THE PROPANE TANK.
3. WAIT 30 SECONDS. * RECONNECT THE REGULATOR TO THE PROPANE TANK.
4. SLOWLY OPEN THE PROPANE TANK KNOB ALL THE WAY OPEN.
5. TURN ON THE APPROPRIATE CONTROL KNOB AND LIGHT THE GRILL PER THE INSTRUCTIONS ON THE CONTROL PANEL.

IF THESE STEPS HELPED, YOU CAN PREVENT THE REGULATOR FROM GETTING STUCK AGAIN. YOU'LL WANT TO MAKE SURE THAT YOU TURN OFF THE CONTROL KNOBS BEFORE TURNING OFF THE VALVE ON THE PROPANE TANK. BUT, IF THIS DOESN'T HELP AND THE FLAMES ARE LARGE AND STILL YELLOW, YOU MAY NEED TO REPLACE THE REGULATOR.

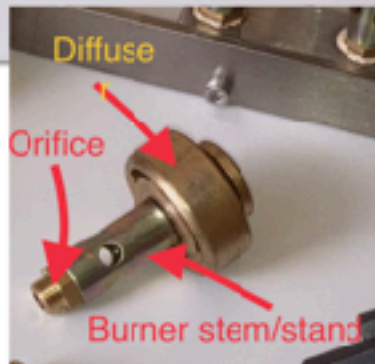
IF BURNER FLAMES ARE ORANGE AT BURNER INSTEAD OF BLUE:

1. MAKE SURE THE BURNERS ARE CLEAN. PORT HOLES & ORIFICES ARE CLEAN
2. GAS FLAMES APPEARING WITH YELLOW OR ORANGE OR POPS OF THOSE COLORS COULD BE DUE TO DUST PARTICLES IN ATMOSPHERE
3. TEMPERATURE OF GAS AS IT BURNS CAN EFFECT COLOR OF FLAME
4. ANOTHER CAUSE COULD BE DUE TO INCOMPLETE COMBUSTION CAUSED BY TOO MUCH CARBON MONOXIDE DUE TO INSUFFICIENT OXYGEN MIXING WITH GAS IN BURNER ROOM. THERE MUST BE A FRESH SOURCE OF AIR COMING INTO YOUR ROASTING ROOM AND AIRWAYS MUST BE CLEAR SEAS TO DRAW OXYGEN INTO BURNER ROOM.
5. A CARBON MONOXIDE BUILDUP IN YOUR SYSTEM (IF THIS CONTINUES YOU MAY NEED TO CONTACT A GAS TECHNICIAN FOR HELP CORRECTING THE AIR INTAKE INTO YOUR BUILDING)

CHANGING THE ORIFICES FROM LPG TO NG

WE RECOMMEND USING A CERTIFIED GAS TECHNICIAN TO PERFORM WORK ON GAS LINES. CUSTOMER AND ANY TECHNICIAN ASSUMES ALL RESPONSIBILITY FOR GAS WORK DONE ON EQUIPMENT.

BC INSTALLING NATURAL GAS OR LPG INJECTOR ORIFICES



ALL BC ROASTERS COME SETUP WITH LPG (PROPANE) ORIFICES. WHEN USING LPG YOU WILL NEED THE MARSHALL 1912/197 LPG REGULATOR & GAS LINE

TO CONVERT TO NATURAL GAS YOU WILL NEED THE NG ORIFICE KIT WHICH INCLUDES THE SAME NUMBER OF NG ORIFICES AS THE NUMBER OF BURNERS ON YOUR ROASTER PLUS IT CONTAINS HIGH TEMP SEALANT.

YOU DO NOT NEED TO REMOVE THE ENTIRE BURNER TO REPLACE ORIFICES. JUST OPEN THE PANEL THAT GIVES YOU ACCESS TO THE BURNER ROOM & REMOVE THE DIFFUSER & BURNER STEM. THEN REMOVE THE EXISTING ORIFICE WITH THE NEW REPLACEMENT ONE. BEFORE REINSTALLING CLEAN BURNER MANIFOLD AND VACUUM OPENINGS THEN PUT SEALANT ON OUTSIDE OF BURNER STEM THEN HAND TIGHTEN INTO EACH HOLE ON MANIFOLD.

HERE ARE A COUPLE VIDEOS IF YOU NEED MORE HELP:

CONVERT NATURAL GAS:

<https://youtu.be/TTuS6iRzF10>

<https://youtu.be/Wy4qY97ANtc>

TOOLS NEEDED: HEX KEY CAN BE USED TO UNSCREW BURNER STEM. #12 SIZE WRENCH TO REMOVE ORIFICE. PLIERS TO HELP REMOVE BURNERS. SAND BLOCK TO CLEAN BURNER MANIFOLD. VACUUM TO CLEAN INNER PART OF MANIFOLD.

DECISION TO CHANGE GAS GAUGE WHEN CONVERTING GAS TYPE:

IN GENERAL WE RECOMMEND THAT YOU USE THE ORIGINAL GAS GAUGE PROVIDED WITH ROASTER EVEN WHEN CONVERTING TO NG.

BUT BECAUSE GAS PRESSURE IS MUCH LOWER ON A NATURAL GAS ROASTER THAN ON AN LPG ROASTER SOME CLIENTS MAY WISH TO CHANGE TO A 2 OR 2.5KPA GAS GAUGE WHEN CONVERTING TO NATURAL GAS.

IF YOU WISH TO DO THIS CONTACT THE TECH & PARTS DEPARTMENT VIA EMAIL FOR GUIDANCE ON THIS AND FOR PARTS.

WE RECOMMEND ANY GAS CONVERSION PARTS BE PERFORMED BY A SKILLED GAS TECH

LOCATING THE CIRCUIT BREAKER IN YOUR ROASTER

THE BC-2 THROUGH THE BC-135 ALL HAVE INTERNAL CIRCUIT BREAKERS TO PREVENT ELECTRICAL OVERLOADS DUE TO SURGE IN POWER GRID OR DUE TO AN INTERNAL SHORT OF EQUIPMENT.

THE BC-2 ROASTERS CIRCUIT BREAKER CAN BE FOUND ON THE OUTSIDE OF UNIT AS SEEN BELOW. ALL OTHER ROASTERS HAVE CIRCUIT BREAKER INSIDE UNIT AND SOME PICTURES BELOW ILLUSTRATE THIS:



**BC-2 CIRCUIT BREAKER ON
OUTSIDE OF UNIT**



**BC-#-5 INSIDE ELECTRIC
ROOM: ACCESS FROM
BACK PANEL**



BC-8, 15 & 25 CIRCUIT BREAKER



TYPICAL ELECTRIC ROOM GAS ROASTERS:



SAMPLE ELECTRIC PANEL (ELECTRIC MODEL)



1.SOLID-STATE RELAY 2.UK TERMINALS

3.BUILT-IN CIRCUIT BREAKER* (IF MACHINE WILL NOT POWER ON PLEASE UNPLUG UNIT & OPEN ELECTRIC ROOM AND FLIP ON BREAKER. A SMALL TRIP BUTTON MAY NEED PUSHED TO TRIP ON BEAKER)**

**4.FUSE HOLDER 5.TIME RELAY
6.SOLID-STATE RELAY**

EQUIPMENT READJUSTMENTS

WHEN YOU FIRST RECEIVE YOUR ROASTER AND UNPACK IT SOME ITEMS MAY HAVE BEEN JARRED DURING TRANSIT. ALSO FROM TIME TO TIME AFTER REPEATED USE MINOR ADJUSTMENTS MAY BE NEEDED TO EQUIPMENT TO KEEP ALL PARTS IN LINE AND WORKING AT OPTIMUM CONDITION. THIS SECTION WILL DISCUSS SOME COMMON ADJUSTMENTS THAT MAY BE NEEDED WHEN FIRST RECEIVING UNIT AND AFTER USE:

ALIGNMENT OF ROASTING DRUM:

IF DURING TRANSIT DRUM BECOMES SLIGHTLY DISPLACED OR OUT OF LINE THIS COULD LEAVE A SLIGHT OPENING BETWEEN OPENING IN DRUM AND BEARING CAUSING SOME BEANS TO FALL FROM DRUM TO INSIDE RESIDUE COLLECTION AREA (HEATING ROOM). OR IT COULD CAUSE DRUM TO MOVE TO CLOSE TO FRONT PLATE OF ROASTER CAUSING DRUM TO RUB OR EVEN STOP WHEN HEATED.

REMOVE DRUM HOUSING, IF THE GAP BETWEEN FRONT DOOR AND DRUM IS UNDER 1-2MM OR OVER 3MM, THEN YOU CAN PUSH THE DRUM FORWARD OR BACKWARD AFTER YOU LOOSEN BACK BEARING SET SCREWS.

- 1.REMOVE DRUM HOUSING (ON BC-2 THRU 5 ONLY)
- 2.THEN LOOSEN THE TWO LOCKING SET SCREWS ON BACK BEARING BC-3 TO 5 (FRONT & BACK BEARINGS ON THE BC-8-24 -**IMPORTANT: ONLY LOOSEN FRONT BEARING SET SCREWS ON THE THE 2022 BC 8-135 MODELS TO ADJUST ALIGNMENT OF DRUM**)
- 3.ADJUST POSITION OF DRUM AND TIGHTEN SCREWS BACK INTO PLACE. A 1.5 TO 2MM GAP IS ACCEPTABLE AND ALLOWS DRUM TO TURN.
4. HEAT TEST TO MAKE SURE DRUM IS PROPERLY SPACED

*****NOTE 2023 BC-3-25 MODELS HAVE A DIFFERENT SYSTEM FOR DRUM REALIGNMENT*****



SET SCREWS SEEN IN PICTURES:

**USE ONLY A METRIC HEX KEY TO LOOSEN
(DO NOT REMOVE)**

THEN YOU CAN MOVE DRUM TO/FROM FRONT PLATE TO 2MM

DRUM ALIGNMENT VIDEOS:

DRUM ALIGNMENT: BC-3 TO 5: [HTTPS://YOUTU.BE/AIDxZCXPPSU](https://youtu.be/AIDxZCXPPSU)

DRUM ALIGN: BC-8-25 [HTTPS://YOUTU.BE/UQU93WXTXOY](https://youtu.be/UQU93WXTXOY)

EQUIPMENT READJUSTMENTS

ADJUSTING MIXING ARMS ON COOLING TRAY:

WHEN TURNING ON COOLING MIXING BUTTON YOUR COOLING ARMS WILL BEGIN TURNING INSIDE TRAY. IF ARMS RUB OR SQUEAK THEN A MINOR ADJUSTMENT MAY BE NEEDED TO ADJUST ARMS. GENERALLY JUST A SLIGHT ADJUSTMENT MADE BY LOOSING ARMS WITH THE METRIC HEX KEY AND PULLING ARMS AWAY JUST SLIGHTLY FROM TRAY SO EXCESSIVE PRESSURE IS NOT ON ARM PUSHING AGAINST TRAY BOTTOM WILL FIX PROBLEM.

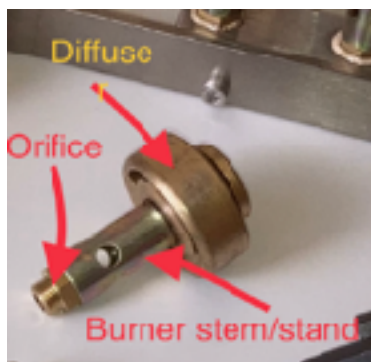
CLEANING YOUR GAS BURNERS

THE BURNER ROOM OF ALL ROASTERS SHOULD BE CLEANED EVERY 3-6 MONTHS OR MORE OFTEN IF NEEDED. TO CLEAN OPEN THE FRONT OR BACK PANEL AND VACUUM OUT ROOM WITH A SHOP VAC AND WIPE DOWN WALLS AND BURNERS TO REMOVE ANY DIRT, DUST AND CARBON BUILDUP

FROM TIME TO TIME A BURNER ORIFICE MAY GET CLOGGED. IF SO HERE IS A WAY TO TAKE THEM APART TO CLEAN:



2. BELOW ARE THE PARTS OF BURNER. YOU WANT TO GET TO THE ORIFICE TO CLEAN THE HOLE IF CLOGGED



1. THE EASIEST WAY TO REMOVE THE BURNER STEM AND DIFFUSER IS WITH A HEX KEY PLACED BETWEEN THE OPEN AIRWAY OF STEM AS SEEN IN IMAGE BELOW: (DO NOT REMOVE ENTIRE BURNER FROM BURNER ROOM- PICTURE JUST FOR ILLUSTRATION)

3. ONCE THE STEM AND DIFFUSER IS REMOVED YOU CAN USE A FINE NEEDLE TO POKE THROUGH ORIFICE HOLE TO UNCLOG IT. (DO NOT USE A TOOL THAT COULD ENLARGE ORIFICE HOLE)

IN THE EVENT THE ORIFICE IS VERY DIRTY YOU CAN REMOVE IT WITH A #12 METRIC WRENCH AND CLEAN ENTIRE ORIFICE. IF REMOVING ORIFICE FOLLOW THE GUIDES IN THE VIDEO BELOW ON HOW TO REINSTALL IT WITH A HIGH HEAT SEALER.

[HTTPS://YOUTU.BE/TTuS6LRzR10](https://youtu.be/TTuS6LRzR10)

IN THE EVENT YOU HAVE NOT MAINTAINED BURNERS EVERY FEW MONTHS YOU CAN BUY REPLACEMENTS BY EMAILING: PARTS@BUCKEYECOFFEE.COM (BE SURE TO TELL THEM IF YOU NEED LPG OR NG ORIFICES & YOUR ACCOUNT #)



VIDEOS ON ROASTER MAINTENANCE

(Subscribe to BC Roasters Videos on YOUTUBE

@BCROASTERS)

DAILY & WEEKLY:

[HTTPS://YOUTU.BE/7FGzPCiOWKw](https://youtu.be/7FGzPCiOWKw)

COMPLETE: (EVERY 3-6 MONTHS)

[HTTPS://YOUTU.BE/8TLT5imNLAY](https://youtu.be/8TLT5imNLAY)

UPDATE: 3-6 MONTH MAINTENANCE:

[HTTPS://YOUTU.BE/d7Y1uBqGiZM](https://youtu.be/d7Y1uBqGiZM)

ARTISAN SOFTWARE

BC ROASTERS ARE DESIGNED TO WORK WELL WITH ARTISAN SOFTWARE & CROPSTER SOFTWARE. WE RECOMMEND ARTISAN SOFTWARE AS OUR NUMBER ONE CHOICE AND ASK THAT IF YOU USE IT THAT YOU WILL HELP SUPPORT THE ARTISAN TEAM WITH A GENEROUS ANNUAL DONATION. UNLIKE CROPSTER WHICH CHARGES UP TO \$99 PER MONTH ARTISAN IS SUPPORTED ENTIRELY BY DONATIONS.

BC ROASTERS CAN CONNECT TO ARTISAN VIA USB OR BLUETOOTH

SEE THE BC SETUP GUIDES OR OUR TECH PAGE FOR SETUP INSTRUCTIONS
(A DRIVER MUST BE INSTALLED ON YOUR PC OR MAC IN ORDER TO CONNECT)

YOU CAN DOWNLOAD ALL SOFTWARE & DRIVERS FROM OUR TECH PAGE:

[HTTP://WWW.BUCKEYECOFFEE.COM/TECH-SUPPORT.HTML](http://www.buckeyecoffee.com/tech-support.html)

OR ON THE MEMBERS PAGE (YOU MUST SIGN UP ON MEMBER PAGE)

[HTTPS://BCROASTERS.COM/M/LOGIN?R=%2FMEMBERS-ONLY-PAGE](https://bcroasters.com/m/login?r=%2Fmembers-only-page)

**ALL BC ROASTERS FROM 2019 AND UP CAN CONNECT TO COMPUTER VIA USB
AND/OR BLUETOOTH**

(YOU MAY NEED TO USE THE BLUETOOTH DONGLE TO CONNECT VIA BT)

IF YOU NEED SUPPORT FOR USE OF ARTISAN SOFTWARE:

ARTISAN SOFTWARE UPDATES AND EMAIL SUPPORT:

Copy and paste this link for the latest software updates:

ARTISAN SOFTWARE:

Latest releases: <https://github.com/MAKOMOMO/artisan/releases/latest> ARTISAN EMAIL
SUPPORT:

Email support:

<https://lists.mokelbu.de/listinfo/artisan-user>

<mailto:artisan-user@lists.einfachkaffee.de>

**IF YOU NEED A SETUP GUIDE FOR ARTISAN WITH YOUR PLUS MODEL DOWNLOAD
FROM TECH PAGE OR EMAIL US FOR A PDF COPY**

ELECTRICAL CERTIFICATIONS:

CE, RoHS, ISOP001

(EMAIL US AT TECH@BUCKEYECOFFEE.COM IF YOU NEED CERTIFICATES)

شهادة - Certificate - 증명서 - 證明書 - Сертификат

Certificate of Compliance

No. 0E171219.ZBMQD63

Test Report no. BKC-17120092R, BKC-17120093R



Certificate's
Holder:

Zhengzhou Blueking Mechanical
Equipment Co., Ltd.

No.11 Mengte Zone of Lianhua street, High-Tech
District, Zhengzhou, China (Mainland)

Certification ECM
Mark:



Product:
Trade Mark:
Model(s):

Coffee Roaster
BK
BK-1AKG, BK-2AKG(ELE TYPE).

Verification to:

Standard:
EN 55014-1:2006+A1:2009+A2:2011,
EN 61000-3-2:2014, EN 61000-3-3:2013,
EN 55014-2:2015, EN 60335-1:2012+A11:2014,
EN 60335-2-9:2003+A1:2004+A2:2006+A12:
2007+A13:2010

related to CE Directive(s):
2014/35/EU [Low Voltage]
2014/30/EU [Electromagnetic Compatibility]

Remark: The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM. In reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) according to the ECM regulation about its release and its use. The regulation can be found at www.entecorma.it. This Certificate of Compliance can be checked for validity at www.entecorma.it.

This verification doesn't imply assessment of the production of the product(s).

Additional information, clarification about the **CE** Marking:



We attest that a TCF for the **CE** Marking process is in place. Whereas the Manufacturer is Responsible to start the **CE Marking Certification Procedure** and to perform all the necessary activities, as required by the Directive before placing the **CE** Mark on the product(s).

Date of issue 19 December 2017

Expiry date 18 December 2022

Chief Manager
Michele Morino

Deputy Manager
Amanda Payne

Ente Certificazione Macchine Srl

Via Ca' Fella, 243 - Loc. Castello di Serravalle - 40053 Valsamoggia (BO) - ITALY

☎ +39 051 2705141 - ☎ +39 051 4796154 - ✉ info@enteceorma.it - www.enteceorma.it

Certificate of Compliance



No. 0E171219.ZBMQD64

Test Report no. BKC-171203092R, BKC-171203093R

Certificate's
Holder:

Zhengzhou Blueking Mechanical
Equipment Co., Ltd.
No.11 Mengle Zone of Lianhua street, High-Tech
District, Zhengzhou, China (Mainland)

Certification ECM
Mark:



Product:

Coffee Roaster

Trade Mark:

BK

Model(s):

BK-1KG
BK-300G, BK-600G, BK-1KG, BK-2KG, BK-3KG,
BK-6KG, BK-10KG, BK-30KG, BK-60 KG. (GAS TYPE)

Verification to:

Standard:
EN 55014-1:2006+A1:2009+A2:2011,
EN 61000-3-2:2014, EN 61000-3-3:2013,
EN 55014-2:2015, EN 60335-1:2012+A11:2014,
EN 60335-2-9:2003+A1:2004+A2:2006+A12:
2007+A13:2010

related to CE Directive(s):
2014/35/EU [Low Voltage]
2014/30/EU [Electromagnetic Compatibility]

Remark: The product(s) has been verified on a voluntary basis. The product(s) satisfies the requirements of the Certification Mark of ECM, in reference to the above listed Standard(s). The above Compliance Mark can be affixed on the product(s) accordingly to the ECM regulation about its release and its use. The regulation can be found at www.entecertmac.it. This Certificate of Compliance can be checked for validity at www.entecertmac.it.

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Marta Morini

Deputy Manager
Amanda Payne

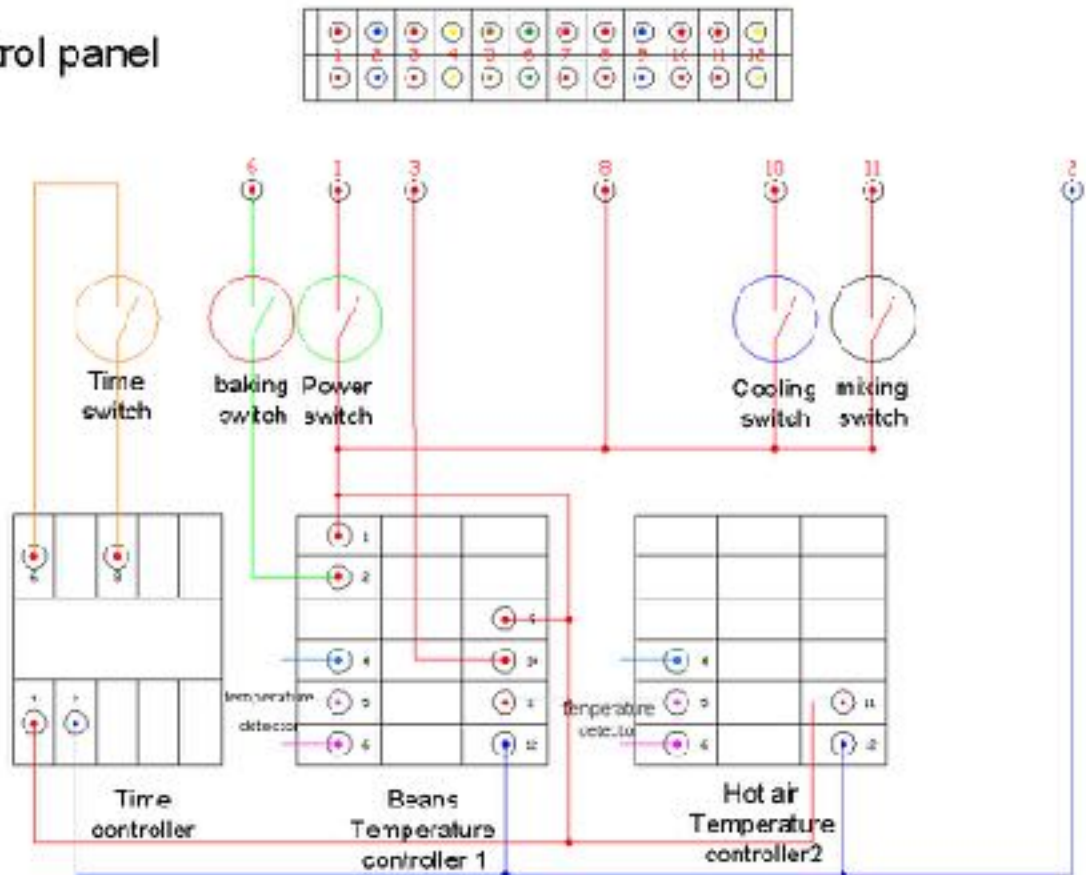
Ente Certificazione Macchine Srl

Via Cava 18 - Loc. Castello di Serravalle - 40053 Valsamoggia (BO) - Italy

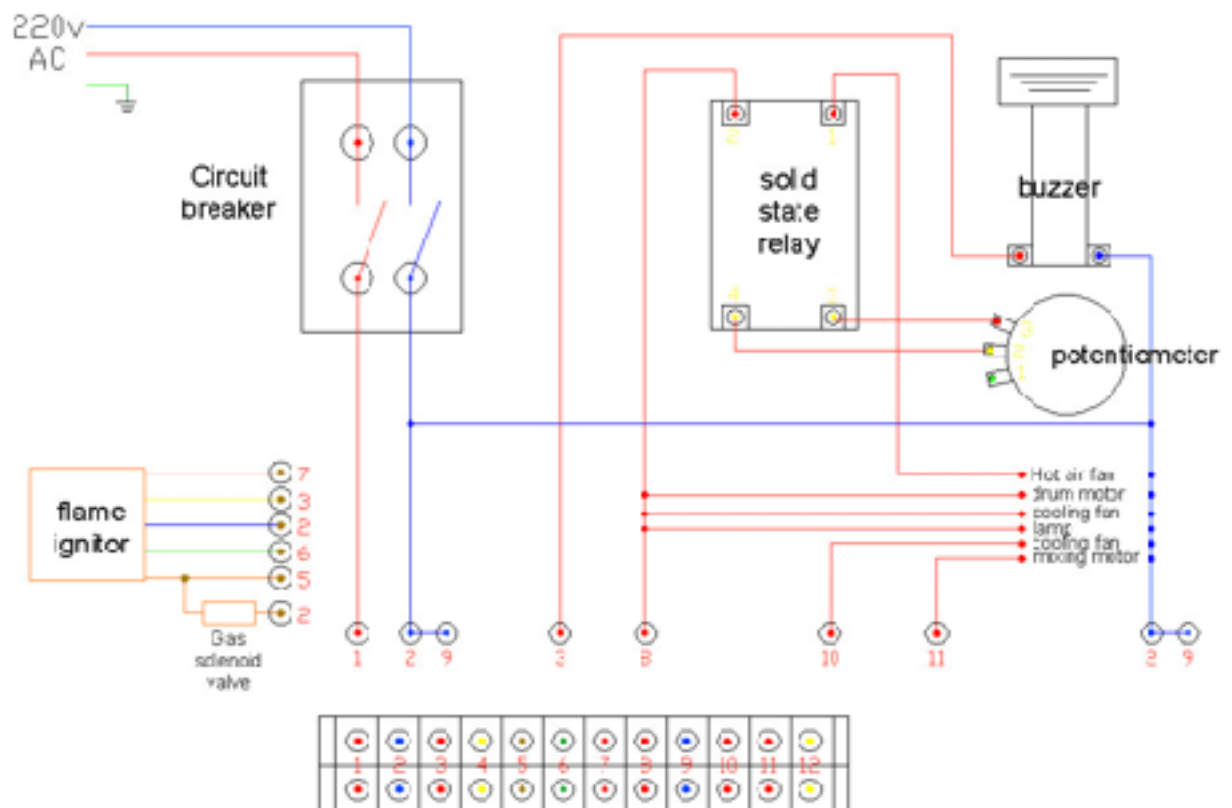
Tel. +39 051 4709111 - Fax +39 051 4709112 - Email info@entecertmac.it - www.entecertmac.it

GENERAL ELECTRICAL SCHEMATICS

Control panel

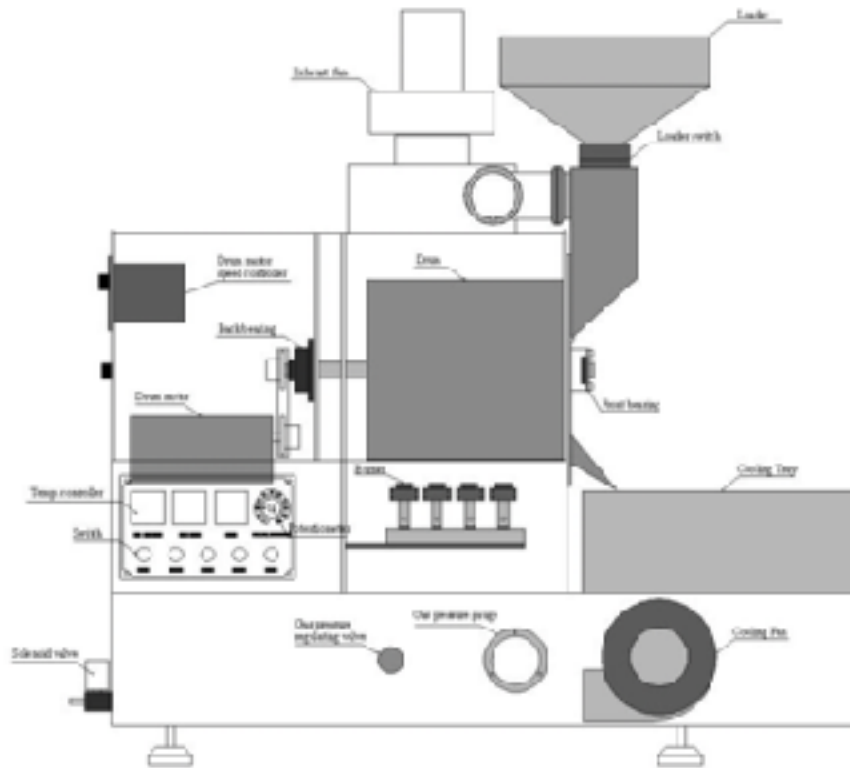


Circuit board



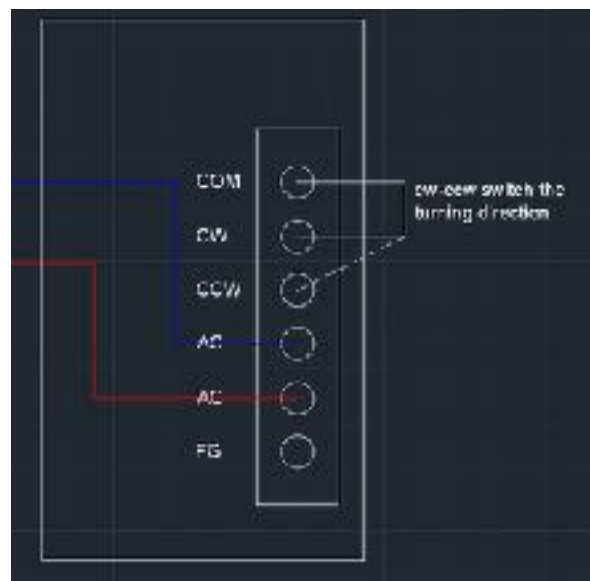
GENERAL BODY SCHEMATICS

SEE EACH ROASTERS SPEC SHEETS FOR DRAWINGS & DETAILS



DRUM SPEED CONTROL:

DRUM SPEED CONTROL MODULE ON BC-2 THRU 5. THERE IS A JUMPER WIRE ON UNIT TO CHANGE DIRECTION OF MOTOR. IF YOU EVER REPLACE DRUM SPEED CONTROL MODULE PLEASE TEST OR COMPARE WITH OLD UNIT THAT YOU HAVE IT SET FOR CORRECT DRUM DIRECTION AND SWITCH WIRE IF NEEDED.



12.IMPORTANT: BC-8-135 SAFETY STARTUP GUIDE

BC-7-8, BC-14-15 & BC-24-25



IMPORTANT: DRUM MOTORS WITH DRUM SPEED

SPECIAL NOTE ON DRUMS AND DRUM SPEED ON BC-7, 14 & 24:

THE DRUM SPEED CONTROL MOTOR IS A 3 PHASE MOTOR ON THE BC-7, 14 & 24 OR LARGER. THEREFORE IT HAS A TRANSFORMER TO CONVERT IT TO SINGLE PHASE.

THEREFORE AS A SAFETY FEATURE FOR THE MOTOR AND TRANSFORMER IF THE POWER IS TURNED OFF AT ALL EVEN FOR JUST A SECOND THE MOTOR AND ROASTER MUST BE TURNED OFF FOR 10 SECONDS BEFORE TURNING BACK ON OR THE DRUM WILL NOT TURN. THIS FEATURE IS BUILT INTO MOTOR AND TRANSFORMER TO PROTECT IT FROM BURNOUT.

IMPORTANT STARTUP GUIDE

2019 BC-8,15 &25

URGENT NOTICE:

READ THIS START UP GUIDE BEFORE USING YOUR ROASTER AND DO NOT LET ANYONE OPERATE THE ROASTER WITHOUT BEING TRAINED ON USING A GAS ROASTER

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL VOID WARRANTY AND COULD PROVE HAZARDOUS OR FATAL

YOUR BC-8, 15 & 25 ROASTER HAS MANY SAFETY FEATURES BUILD INTO UNIT. BUT IF NOT PROPERLY USED COULD CAUSE FIRE OR EXPLOSION TO YOUR MACHINE. IF YOU DO NOT READ AND TRAIN ALL USERS OF THIS EQUIPMENT YOUR OPERATION OF UNIT WILL BE AT YOUR OWN RISK AND WILL VOID ALL WARRANTIES AND YOU WILL BE LIABLE FOR ALL DAMAGES

- 1. IMPORTANT STARTUP INSTRUCTIONS**
- 2. HOW TO START AND IGNITE YOUR ROASTER SAFELY**
- 3. SAFETY SHUT OFF VALVE**
- 4. ON/OFF SWITCH FOR CHAFF FAN**
- 5. IF POWER GOES OFF TO MACHINE**

1. NEVER START A GAS ROASTER WITHOUT RUNNING AIR FLOW!

WHEN USING A GAS ROASTER ALWAYS FOLLOW THE SAFETY INSTRUCTIONS IN MANUAL.

FOLLOW THESE STEPS FOR A SAFE AND PRODUCTIVE ROAST:

1. ALWAYS BE SURE YOUR GAS LINE IS FREE OF LEAKS. (SOAPY WATER TEST)
2. TURN ON MACHINE AND CHECK THAT ALL COMPONENTS ARE WORKING PROPERLY
3. WHEN IGNITING ROASTER YOU MUST FOLLOW THIS PROCEDURE:
 - A. TURN ON CHAFF FAN (AIR FLOW) AT LEAST 20% (LISTEN FOR RUNNING FAN) SOME ROASTERS REQUIRE AS MUCH AS 40-50% AIRFLOW TO START BUT THEN MUST BE REDUCED TO 10-20% AT BEGINNING OF ROAST
 - B. MAKE SURE THE PILOT LIGHT VALVE IN BACK OF ROASTER IS OPEN. NEVER START ROASTER WITHOUT BACK PILOT LIGHT VALVE BEING OPENED.
 - C. DO NOT OPEN GAS VALVE IN FRONT
 - D. PRESS IGNITOR BUTTON WITH FRONT GAS VALVE OFF! ('BAKING' OR ROASTING BUTTON ON CONTROL PANEL) IT WILL BUZZ. WHEN PILOT LIGHT IGNITES PILOT BURNER:

- E. SLOWLY TURN ON FRONT GAS VALVE WHICH WILL IGNITE ALL THE BURNERS. (ADJUST AIRFLOW AS NEEDED TO KEEP STEADY FLAME)
 - F. NEVER TURN GAS ON UNLESS AIR FLOW IS ON OR GAS COULD BUILD UP IN BURNER ROOM.
4. ONCE FLAME IGNITES ADJUST PRESSURE USING THE KPA GAUGE TO 0.5-2-3 KPA WITH LPG GAS OR 0.25-1KPA IN NATURAL GAS UNIT. MOST ROASTS CAN BE ACHIEVED AT 2-3 KPA IN LPG AND AS LOW AS 0.25-1KPA IN NATURAL GAS UNIT. SMALL ROASTS MAY BE ROASTED MUCH LOWER. (NATURAL GAS PRESSURE IS MUCH LOWER THAN LPG)
 5. ADJUST AIRFLOW UP AS ROAST DEVELOPS TO REMOVE SMOKE AND CHAFF FROM DRUM AND IN CONTROLLING TEMPERATURE (ROR)

SAFETY MUST ALWAYS BE #1!

NEVER CUT CORNERS! NEVER OPERATE A MACHINE NOT IN PERFECT RUNNING CONDITION.

***ALL ELECTRIC MODELS DO NOT REQUIRE AS MUCH AIR FLOW AT THE BEGINNING OF ROAST OR PREHEAT**

ALL FLAME AT BASE OF BURNERS SHOULD BE BLUE

**BC-8,15 & 25,35,70 & 135
ARE SAFE ROASTERS WHEN
OPERATED PROPERLY**

2. HOW TO START AND IGNITE YOUR ROASTER SAFELY

THESE ROASTERS ARE
EQUIPPED WITH A **PILOT LIGHT
IGNITOR**. THE IGNITOR PILOT
LIGHT IS DESIGNED TO IGNITE
ONE BURNER WHEN PRESSING
THE 'ROASTING' OR
'IGNITOR' BUTTON ON
CONTROL PANEL:



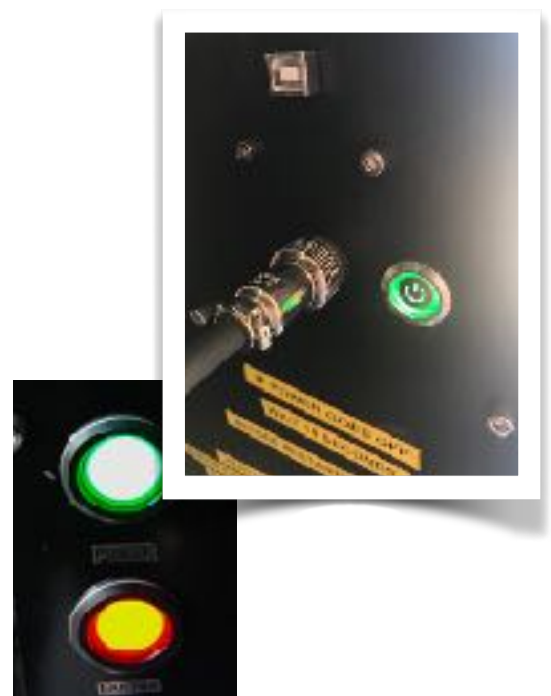
**ALWAYS LEAVE PILOT LIGHT VALVE OPEN ON BACK OF
ROASTER**

PILOT LIGHT VALVE IS LOCATED ON BACK SIDE OF MACHINE



**NEW FOR
2019:**

ON/OFF
SWITCH FOR
CHAFF FAN.
MAKE SURE
FAN IS ON AND
RUNNING
BEFORE
ATTEMPTING TO
START ROASTER



(LPG GAS GAUGE BELOW(2021 & EARLIER MODELS):)

**NEVER TURN ON THE FRONT GAS VALVE UNTIL AFTER TURNING ON
'ROASTING' IGNITOR BUTTON & VISUALLY SEEING THE PILOT BURNER
IGNITE.**

**NEXT TURN FRONT GAS VALVE SLOWLY ON WATCHING FLAME SPREAD
TO ALL BURNERS: (ADJUST AIRFLOW FROM 1-3 AFTER LIGHTING FOR EVEN
FLAME AS NEEDED)**



PILOT IGNITOR BURNER:

**BURNER WILL IGNITE
AUTOMATICALLY AFTER
PRESSING THE "ROASTING"
IGNITOR BUTTON ON CONTROL
PANEL:**



**THEN ONLY AFTER PILOT
BURNER IGNITES CAN YOU
SLOWLY TURN ON GAS
VALVE ON FRONT OF
ROASTER:**



3. SAFETY SHUT OFF VALVE

IN GENERAL YOU SHOULD NEVER NEED TO USE THE EMERGENCY SAFETY SHUT OFF BUTTON OR VALVE. BUT IF NEEDED THIS WILL SHUT ALL POWER OFF TO MACHINE STOPPING DRUM AND ALL POWER. IF NEEDED PUSH BUTTON IN. IT WILL NOT ALLOW STARUP AGAIN UNTIL TURNED CLOCKWISE AND THEN BUTTON POPS OUT ALLOWING ROASTER TO BE TURNED ON AGAIN.

BE AWARE IF USING SHUT OFF VALVE DURING A ROAST WILL WILL DAMAGE OR DESTROY AND BURN BEANS



GREEN BUTTON- POWER

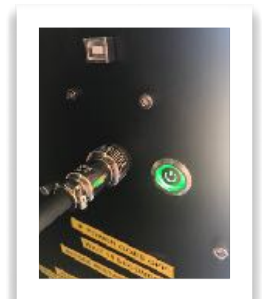
ORANGE- IGNITOR

BLUE-COOLING FAN

RED-SAFETY SHUT OFF VALVE

YELLOW-TIMING

WHITE-MIXING ARMS



4. ON/OFF SWITCH FOR CHAFF FAN

NEW FOR 2019 MODELS: WE HAVE ADDED AN ON/OFF SWITCH ON THE BACK OF ROASTER WHERE THE AVIATION PLUG FOR FAN GOES INTO ROASTER.

(KEY POINT: ALSO ATTACH AVIATION PLUGS ON ROASTER BEFORE PLUGGING IN POWER AND WITH SWITCH OFF)

ONE REASON FOR THIS SWITCH IS SO YOU CAN EMPTY CHAFF UNIT WITHOUT THE NEED TO TURN OFF ROASTER.

USE ONLY WHEN GAS IS OFF

- 1. TURN OFF GAS AT ROASTING OR IGNITOR BUTTON ON CONTROL PANEL**
- 2. TURN BACK CHAFF FAN BUTTON OFF**
- 3. NOW YOU CAN QUICKLY OPEN BACK CHAFF UNIT DOOR AND EMPTY CHAFF UNIT**
- 4. BE SURE YOU CLOSE AND LATCH DOOR ON CHAFF UNIT COMPLETELY BEFORE TURNING FAN BACK ON**
- 5. TURN FAN SWITCH BACK ON- CHECK TO SEE FAN IS OPERATING**
- 6. RESUME ROASTING**

5. IF POWER GOES OFF TO MACHINE

IN THE EVENT THAT POWER GOES OFF ON MACHINE OR YOU TURN POWER OFF YOU MUST WAIT 10 SECONDS BEFORE RESTARTING OF ELSE THE DRUM MOTOR WILL NOT TURN

YOUR BC-8, 15 & 25 IS EQUIPPED WITH A 3 PHASE DRUM SPEED MOTOR AND A SINGLE PHASE CONVERTER FOR THE MOST ACCURATE DRUM SPEED CONTROLS

(NOTE: THE NUMBERS ON THE DRUM SPEED SWITCH ARE NOT RPM BUT RATHER JUST PERCENTAGES OF THE MOTORS DRUM SPEED.
MOST PEOPLE SET DRUM SPEED BETWEEN 7-8 AND ADJUST AS NEEDED)



IF POWER GOES OFF ON
ROASTER- WAIT 10 SECONDS
BEFORE TURNING ROASTER
BACK ON OR DRUM WILL NOT
POWER ON

THIS FEATURE WAS ADDED TO AVOID
BURNING OUT MOTOR OR
TRANSFORMER FOR DRUM SPEED
CONTROL

IMPORTANT SAFETY POINT:
**ALWAYS READ ENTIRE MANUAL
BEFORE USE OR WARRANTY WILL
BE VOID**

13. IMPORTANT GAS PRESSURE NOTICE

Important Gas Pressure Notice:

LPG MODELS MUST HAVE PRESSURE LOWERED

WHILE OUR NATURAL GAS LINE WORK WITH STANDARD 7WC OR HIGHER

(SEE EACH SPEC SHEET FOR REQUIREMENTS OF EACH SIZE ROASTER)

IMPORTANT NOTICE TO ALL CUSTOMERS AND PROSPECTIVE CUSTOMERS CHOOSING TO BUY GAS ROASTERS AND COMMERCIAL GAS APPLIANCES:

ALL GAS APPLIANCES ARE BOTH VERY EFFICIENT TOOLS OF THE TRADE BUT ALSO MUST BE **INSTALLED PROFESSIONALLY BY CERTIFIED TECHNICIANS**. NATURAL GAS (NG) AND LIQUID PROPANE GAS (LPG) ARE GREAT FUELS FOR COOKING AND ROASTING. BUT IMPROPERLY USED CAN BE FATAL. IT IS THEREFORE VITAL ALL PERSONS CONSIDERING BUYING EQUIPMENT USING NATURAL GAS OR LPG UNDERSTAND ITS PROPER USAGE AND LIMITATIONS. **IT IS THE FULL RESPONSIBILITY OF THE CONSUMER OR CUSTOMER TO EDUCATE HIMSELF ON THE PROPER USE AND SAFETY REQUIREMENTS OF USING ANY GAS PRODUCT.**

GAS PRESSURE:

BEFORE PURCHASING A GAS APPLIANCE IT IS THE BUYERS RESPONSIBILITY TO BE SURE THEY ARE PERMITTED TO INSTALL AND OPERATE A GAS APPLIANCE AT THEIR FACILITY. THEY MUST ALSO BE EDUCATED AS TO THE GAS PRESSURE REQUIRED TO RUN A COMMERCIAL COFFEE ROASTER AT THEIR LOCATION.

LPG (PROPANE): ROASTERS REQUIRE A CONSISTENT CONSTANT GAS PRESSURE OF 12-24 WC FOR FULL ROASTS. YOU CAN ACHIEVE SMALLER ROASTS AT LOWER PRESSURE BUT TO TAKE FULL ADVANTAGE OF YOUR ROASTER YOU WILL BENEFIT FROM FULL GAS PRESSURE. IT IS VITAL TO USE THE CORRECT LOW PRESSURE LPG GAS REGULATOR THAT ALLOWS UP TO 24WC. WE RECOMMEND THE MARSHALL PRO 1912/197. **NEVER USE A HIGH PRESSURE REGULATOR WITH OVER 0.86 PSI.**

NATURAL GAS (NG):

NATURAL GAS SETTINGS IN A STANDARD RESIDENTIAL HOME ARE SET AT ABOUT 3-7 WC. ALL OUR CURRENT LINE OF ROASTERS DESIGNED FOR NATURAL GAS ARE BEST RUN AT 7WC NG PRESSURE. YOU MUST HAVE A CERTIFIED NATURAL GAS TECHNICIAN INSTALL AND TEST ALL GAS LINES AND EQUIPMENT. **IT IS THE FULL RESPONSIBILITY OF THE CUSTOMER AND INSTALLER TO PROPERLY SETUP AND USE NATURAL GAS APPLIANCES.**

FOR MORE INFORMATION: SEE ARTICLE BELOW FOR GAS PRESSURE: [HTTP://INSPECTAPEDIA.COM/PLUMBING/GAS_Pressures.PHP#NATURALGAS](http://inspectapedia.com/plumbing/Gas_Pressures.php#NATURALGAS)

LIQUID PROPANE GAS (LPG)

LPG OR COMMONLY CALLED PROPANE IN THE USA COMES OUT OF THE TANK AT A VERY HIGH PRESSURE (TYPICAL RANGES ARE 10-100 PSI) THIS PRESSURE IS FAR TOO HIGH TO RUN ANY APPLIANCE SAFELY AND THEREFORE MUST BE ADJUSTED USING APPROVED REGULATORS.

(10 TO 100 PSI = WC OF 276 TO 2767)

TO DETERMINE WC SEE LINK BELOW: [HTTP://WWW.CONVERTUNITS.COM/FROM/PSI/TO/WATER+COLUMN+\[INCH\]](http://www.convertunits.com/from/PSI/to/WATER+COLUMN+[INCH])

USING A STANDARD HOME GRILL REGULATOR:

HOME LPG GAS GRILL REGULATORS CUT THE GAS PRESSURE DOWN TO 11 WC WHICH IS TOO LOW TO RUN MOST COMMERCIAL COFFEE ROASTERS. THEREFORE A PROFESSIONAL LOW PRESSURE REGULATOR IS NEEDED TO ROAST AT PRESSURES UP TO 24 WC. FIND THE NEAREST PROFESSIONAL LPG EQUIPMENT SUPPLIER IN YOUR AREA FOR DETAILS. GAS LINES: IT IS VITAL THAT ALL GAS LINES BE FREE OF LEAKS. HAVE ALL NATURAL GAS LINES PROFESSIONALLY INSTALLED BY A CERTIFIED TECHNICIAN LICENSE AND APPROVED IN YOUR LOCALITY.

LPG:

USE ONLY PROFESSIONALLY CRIMPED GAS LINES AND ALWAYS CHECK FOR LEAKS USING THE SOAPY WATER TEST BEFORE LIGHTING ANY APPLIANCE.

STEPS TO TAKE IF YOU HAVE AN ISSUE WITH ROASTER:

IF YOU HAVE AN ISSUE FOLLOW THESE STEPS FIRST:

- 1. CHECK MANUAL**
- 2. CHECK OUR TECH PAGE ON OUR SITE**
- 3. GOOGLE QUESTIONS**
- 4. IF YOU CANT FIND ANSWER EMAIL US AT TECH@BUCKEYECOFFEE.COM WITH YOUR ACCOUNT NUMBER, NAME AND MODEL OF ROASTER. YOU CAN ALSO SEND PICTURES AND VIDEO CLIPS.**
- 5. WE ARE HUMAN AND NOT AWAKE 24 HOURS A DAY. WE ARE HAPPY TO HELP YOU DURING NORMAL BUSINESS HOURS IN BETWEEN MEETINGS. BUT WE CANNOT INSTANTLY ANSWER EVERY QUESTION. 95% OF THE TECH EMAILS WE GET YOU CAN FIND ANSWERS TO IN THIS MANUAL OR A VIDEO ON OUR TRAINING PAGE TO RESOLVE.**
- 6. IF YOU HAVE SEARCHED ALL ABOVE INFORMATION AND CANNOT RESOLVE ISSUE YOU MAY EMAIL THE TECH DEPARTMENT AT TECH@BUCKEYECOFFEE.COM OR TECHBCROASTERS@GMAIL.COM AND WE RESPOND WITHIN 24 HOURS.**