



GRINDING COFFEE

(get the best from your grinder)



Brunel Coffee Limited 01454 619990



Grinding Coffee

At the end of this brochure, you should be able to:

- ❖ Understand the importance of adjusting the size of the grind particle.
- ❖ Adjust the grinder.
- ❖ Be aware of environmental changes.
- ❖ Clean the grinder.

Summary

1. Check that the grinder is clean and switched on at a power point.
2. Use opened bags of coffee beans first
3. Ensure that the bean hopper has enough fresh beans in it.
4. Adjust the grind setting if necessary.
5. Keep the grinder area clean at all times.
6. Clean the grinder at the end of the service period.



The Grinder

The grinder is often considered to be the key to producing the perfect espresso. When the espresso machine is operating efficiently, when fresh coffee is used, when quality water is used and when the barista is trained and experienced, the grinder controls the quality of the espresso extraction.

It is important to understand and master the grinder if you are to achieve optimum espresso extraction. During training it is crucial to understand how the grinder adjustments affect the extraction and the quality of the coffee in the cup and if you cannot adjust the grinder to grind more coarsely or more finely, you will **never** be a competent barista.

If you have been told, “Never adjust the grinder” or “Only the coffee company or your manager can adjust the grinder”, be prepared to receive customer complaints about the quality of the espresso and you might lose customers.

At the start of his/her service period, a barista should ensure that the espresso machine has been seasoned, then prepare a shot or shots to check and verify the quality of the extraction and adjust the grinder if required.

When taking over from another barista, it might also be necessary to adjust the grinder in order to allow for any differences between baristas’ dosing and/or packing styles.

Adjustments to the grinder might also be necessary when a new bag of coffee beans is opened. This adjustment is related to the ageing of the coffee beans.

The two main types of grinders are:

1. The flat-burr type.
2. The conical type.



Flat Burrs



Conical Burrs

The flat burr grinder:

- Has two flat or parallel burrs (plates)

The conical grinder:

- Has a cone-shaped main burr.
- Produces a more consistent grind particle size than the flat-burr grinder.
- Has a motor that turns more slowly and stays cooler during operation than the motor of most flat-burr grinders.
- Is usually more expensive.



Checking the Grind

To check if the size of the grind particle is correct, and before you make any adjustments to the grinder, you should prepare an espresso and assess the extraction – that is, *about* 30ml of espresso extracted in *about* 20 – 25 seconds.

Apart from using volume/time as a guide, it is important for trained baristas to understand and recognise the key visual indicators that show when the flavour has been exhausted from the packed ground coffee. The visual indicators are more reliable than using the volume/time guideline and offer the barista greater control in determining when to stop the extraction process.

The quantity (in grams) of ground coffee will depend on the coffee blend, the size of the filter basket and the baristas dosing and packing techniques.

Remember that any variables mentioned- such as measurements, temperature ranges, settings, times, and cup, glass mug sizes- are intended to be a guide or starting reference point only. You should check with your manager, your equipment supplier or your coffee supplier for recommendations that best suit your establishment.

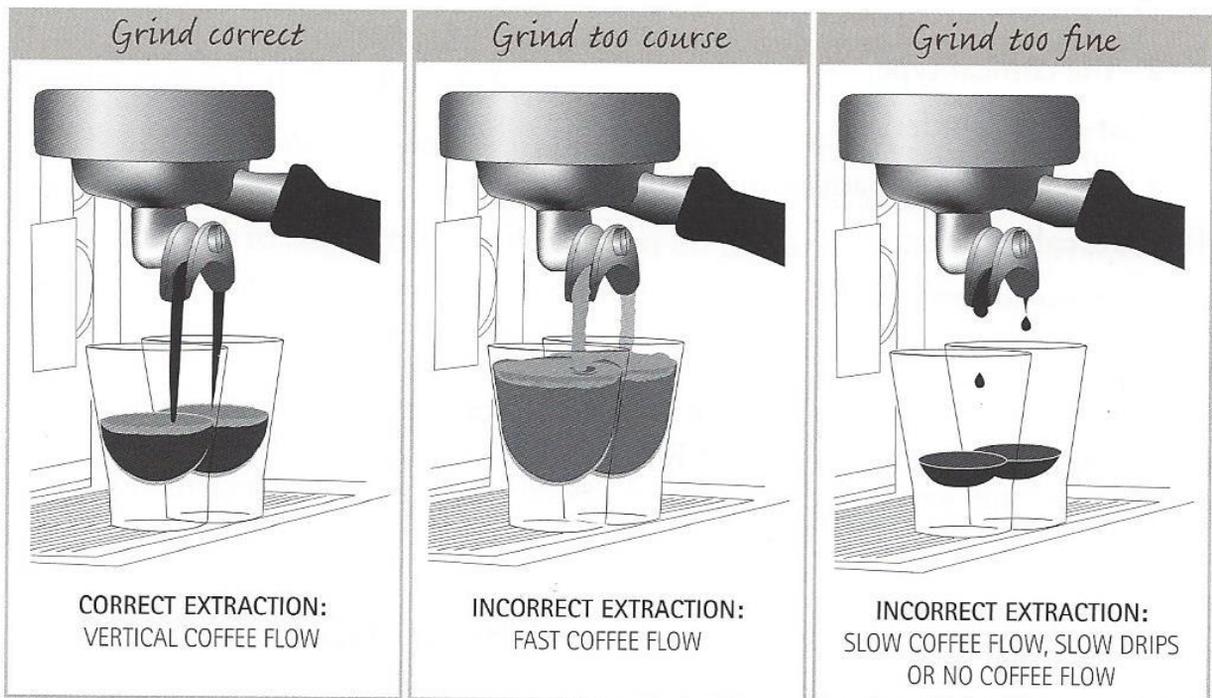


Checking the Grind

Coffee break

- You should check the grind only after you have seasoned the espresso machine.
- The extraction or flow rate is controlled by adjusting the size of the grind particle.
- Worn burrs will result in variations in the size of the grind particle and inconsistent espresso extraction. You will find it difficult to see the unevenness of the particle size.
- Warm coffee grounds usually indicate that either the grinder cannot keep up with demand or the burrs are worn.
- The numbers or marking on the grinder adjustment collar should be used as reference points and not to identify the size of the grind particle.

Correct and incorrect grinding examples





Reasons for Adjusting the Grinder

There are a number of variables controlled by the grinder that will affect the extraction. Throughout the service period the barista must continually monitor the extraction and make adjustments to the grinder as required. Some of the main reasons for making grinder adjustments are as follows:

Incorrect extraction

As a guide, extraction volume for an espresso will generally be about 30ml. If the extraction is too slow - that is, if it takes more than about 30 seconds to extract an espresso – you might need to adjust the grinder to grind more coarsely. If it takes less than about 20 seconds to extract the espresso – you might need to adjust the grinder to grind more finely.

Environmental factors

Coffee is *hygroscopic*, which means that it readily absorbs moisture from the air. Coffee beans and ground coffee also dry out when they are exposed to dry air. Throughout the service period, you might need to make minor changes to the grind setting to achieve optimum extraction:

- As humidity increases, you might need to adjust the grinder to grind more coarsely.
- As humidity decreases, you might need to adjust the grinder to grind more finely.

A new bag of coffee

- Ageing might cause slight variations to occur from bag to bag.

Change of Barista

- Each barista might have a different dosing and packing technique, so might be necessary to adjust the size of the grind particle.

Change of filter basket

- If you change the size of the filter basket, you might need to adjust the grinder to grind more coarsely or more finely.

Change of espresso machine

- Each espresso machine can have its own characteristics and its settings will differ.

Change of espresso machine settings

- If the temperature, pressure or flow-rate settings are changed, you might need to adjust the grinder.

A change in the coffee blend or coffee supplier

- The coffee's characteristics will vary from blend to blend and from supplier to supplier.

Burr (plate) wear

- To compensate for burr wear over time, you might need to adjust the grinder to a finer setting.



Adjusting the Grinder

Throughout any service period, the grinder might need to be adjusted several times. A barista must be aware when to make adjustments to the grinder to ensure extraction consistency. The adjustment is the key to consistent quality extractions. In some grinders that also tamp automatically, the tamping pressure can be adjusted. After making any adjustments to the grinder, always check the extraction and quality in the cup.

GRINDER ADJUSTMENTS

A typical grinder has the following two areas of adjustment:

1. The *size* of the grind particle – that is, the fineness or the coarseness of the grind.
2. The *quantity* dispensed – that is, the weight of the coffee dispensed.

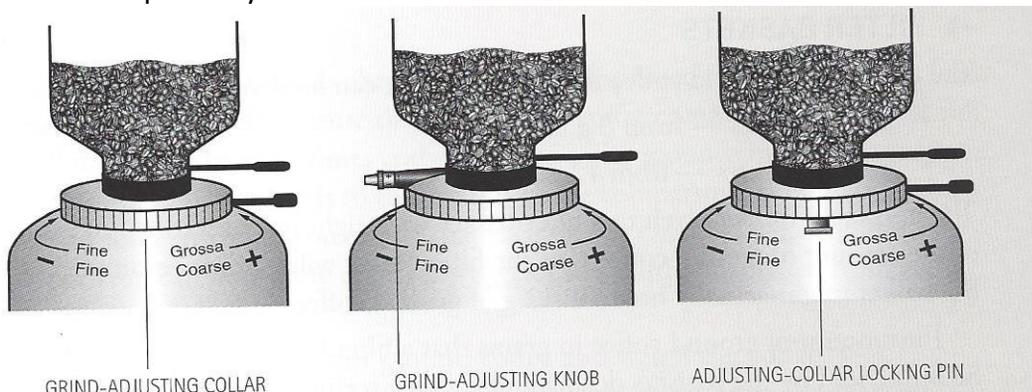
THE SIZE OF THE GRIND PARTICLE

The particle *size* or grind, is adjusted by moving the grinding burrs:

- Closer together to make the grind finer.
- Further apart to make the grind coarser.

TO ADJUST THE SIZE OF THE GRIND PARTICLE

1. Determine whether a finer or coarser grind is required.
2. Ensure that the bean hopper gate is open.
3. If applicable to your grinder, unlock the locking pin (catch or locating screw) on the grind adjusting collar.
4. Turn the grind adjusting collar or knob clockwise or anticlockwise.
5. Turn one increment or notch at a time and relock the locking pin.
6. Grind some coffee for about 5 seconds and then discard it.
7. Grind some more coffee.
8. Dose and pack the filter basket.
9. Repeat these steps until you have achieved the correct extraction



Three grinders, showing the parts for adjusting the size of the grind particle



Notes on steps for adjusting the size of the grind particle

Step 1.

If the extraction is too slow – that is, if it takes more than 30 seconds to extract about 30ml, adjust the grinder to grind more coarsely. If the extraction is too fast – that is, if it takes less than 20 seconds to extract about 30ml, adjust the grinder to grind more finely.

In determining when the flavour has been exhausted from the ground coffee, the key visual indicators will be more accurate than the time it takes to extract a certain volume (that is, x millilitres in x seconds).

Step 3.

Some grinders do not have a locating screw for locking the adjustment collar.

Firmly hold the adjustment collar with one hand before unlocking the catch. If you do not hold it, the adjustment collar can move (spin), especially when the grinder motor is turning.

Step 4.

This step will depend on the style of grinder being used.

Step 5.

Some grinders require the grinder to be operating while making adjustments, to ensure that beans do not become jammed between grinding burrs. Be careful, as the grind-adjusting collar might spin or move quickly. Refer to the operating manual. Do not allow the grinder burrs to touch. The burrs are usually metal and if they touch while the grinder is operating you will blunt them or the motor could even burn out.

Step 6.

It is important that you discard this small amount of ground coffee, because it will contain a mixture of grounds from the old and new settings.

Step 10.

If you get close to the correct extraction rate but the flow is still a little fast, leave it, because if the grind is too fine and the extraction rate is too slow, then the espresso will be compromised and might lack flavour. It is important to monitor what is in the cup regularly before making any adjustments to the grinder.



THE QUANTITY DISPENSED FROM ELECTRONIC (on demand) GRINDERS

On an electronic dosing grinder, the dose quantity for a single and double baskets is set independently using the programmable keypad. The ground coffee dispensed (the dose quantity) is measured in grinding seconds. To increase the dose quantity, increase the grinding seconds. To decrease the dose quantity, decrease the grinding seconds.

When adjustments are made to the dose quantity (grinding seconds), the size of the grind particle may need to be adjusted to compensate for any increase/decrease in the through-put grind speed of the grinder: that is, the finer the grind, the longer the grinding time required to grind x grams of coffee, and the coarser the grind, the shorter the grinding time required to grind x grams of coffee.

THE QUANTITY DISPENSED FROM THE DOSING CHAMBERS

When using the dosing-lever method to dose the filter basket follow the steps below to check the quantity of ground coffee dispensed with each pull of the dosing lever. Before making any adjustment, you will need to assess the extraction to determine if it is necessary to increase or decrease the quantity dispensed.

1. Ensure that the bean hopper is $\frac{1}{2}$ - $\frac{3}{4}$ full of beans.
2. Grind enough coffee to fill the ground coffee compartment to the $\frac{1}{2}$ - $\frac{3}{4}$ level.
3. Pull the dosing lever six times and collect the coffee grounds in a clean container.
4. Return the coffee grounds to the ground-coffee compartment.
5. Pull the dosing lever two or three times and dispense two or three full chambers of ground coffee into the double filter basket.
6. Settle the coffee in the basket.
7. Level off the coffee in the basket.
8. Tamp the coffee.
9. Insert the group handle in the group head.
10. Start the brewing cycle immediately.
11. Place a cup or glass under each spout and assess the extraction.
12. Stop the brewing cycle.



Notes on steps for checking the quantity dispensed

The following notes refer only to those steps that require further information.

Step 3

By pulling the dosing lever six times, you ensure that each dosing chamber is full of ground coffee. You can now more accurately check the quantity dispensed from each dosing chamber.

Step 5

The number of pulls will depend on the size of the filter basket and the setting for the quantity dispensed from the dosing chambers. The guideline is that the filter basket should be lightly over-filled before you settle, level off and tamp the coffee.

Step 6

Settle the ground coffee between the first and second or between the second and third pulls. Using the same settling method will help to ensure that the dose quantity is consistent. Settling the coffee in the filter basket before levelling off and tamping can eliminate any voids or clumps and help distribute the ground coffee evenly. It will also increase the amount of ground coffee in the filter basket. Settle the ground coffee in the filter baskets by gently tapping the group handle on the bench or a solid surface.

Step 7

Level off the excess by using a clean tool – for example, a spatula with a straight edge. When you level off, it also helps to distribute the coffee grounds in the filter basket. Level off the excess ground coffee into the ground-coffee compartment of the grinder. Do not place the group-handle spouts over the ground-coffee compartment, as water might drip into the compartment.

Step 9

Before inserting the group handle in the group head, ensure that any excess coffee grounds are cleaned from the filter-basket rim and group-handle lugs.

Step 11

If the extraction is too slow – that is, if it takes more than 30 seconds to extract about 30ml – decrease the dose quantity by increasing the tension on the adjusting knob, and then repeat steps 1 to 12. Alternatively, if you believe the dose quantity to be sufficient, do not adjust the tension on the adjusting knob; instead, make adjustments to the size of the grind particle, as explained in step 1 of (*notes on steps for adjusting the size of the grind particle*).

Step 12

Follow the key visual indicators as discussed to determine when to stop the brewing cycle (extraction). Assess the spent ground coffee (cake, biscuit, puck, cookie) to determine if your dose quantity and grind are correct. If the spent grounds are wet and sloppy, you will need to make further adjustments to either the dose quantity or the size of the grind particle.



TO ADJUST THE QUANTITY DISPENSED FROM THE DOSING CHAMBERS

The objective is to increase or decrease the amount of ground coffee being dispensed each time you pull the dosing lever. Before making any adjustments to the quantity dispensed, assess the extraction. In some cases, to achieve the correct extraction you need to make only a minor adjustment to the size of the grind particle instead of increasing or decreasing the quantity dispensed (weight in grams).

1. Adjust the tension of the dosing chambers by turning the adjustment knob. The adjustment knob can be either on top of or underneath the dosing chamber (refer to your grinder operating manual). If you increase the tension, you will decrease the dose quantity; if you decrease the tension, you will increase the dose quantity.
2. Once you have adjusted the quantity setting for the dosing chambers, you will need to check the quantity dispensed from the dosing chambers, as previously explained.

GRAM SCALES

You can use gram scales to check the quantity dispensed (weight in grams) from the dosing chambers. Ensure that the ground-coffee compartment is $\frac{1}{2}$ - $\frac{3}{4}$ full. Pull the dosing lever six times and collect the ground coffee in a clean container. Return the ground coffee to the ground-coffee compartment. By pulling the dosing lever six times, you ensure that each dosing chamber is full of ground coffee. You can now more accurately check the quantity dispensed from each dosing chamber.

Dispense one chamber of ground coffee and weigh the coffee. It is recommended you repeat these two actions six times and note the average weight. Adjust the quantity dispensed from the dosing chambers as explained under *To adjust the quantity dispensed from the dosing chambers*.

The preferred method for checking the dose quantity is the one outlined in steps 1-12 under *To check the quantity dispensed from the dosing chambers*, in which the following two points have been taken into consideration:

- Volumetric differences between the various sizes of filter baskets.
- Variations in grind.

Gram scales can also be used to check or verify the quantity of packed ground coffee in the filter baskets. Baristas should use them especially when training to verify if their packing technique is consistent – that is, they are doing the same weight of ground coffee into the filter basket each time.



COFFEE BREAK

- *When you are using the dosing lever, you should always pull it to its full 'stop' position – no partial pulls! – and let go so that it returns to its 'start' position. The dosing lever is spring loaded.*
- *The number of pulls of the dosing lever require to fill the filter basket can vary from one to two for a single filter basket and from two to three for a double filter basket.*
- *The density of each blend will vary. If the type or blend of coffee is changed, you might have to adjust the size of the grind particle and/or the quantity dispensed to achieve optimum espresso extraction. If you change the dose quantity, you may need to make adjustments to the size of the grind.*



FILTER BASKETS

The quantity of ground coffee that a filter baskets can hold varies:

- Single baskets – from 6g to 14g
- Double baskets – from 12g to 25g

The nominal number given to a filter basket might not be a true indication of the amount of ground coffee that the filter basket will hold; for example. An 8g basket might actually hold 10-12g of ground coffee.

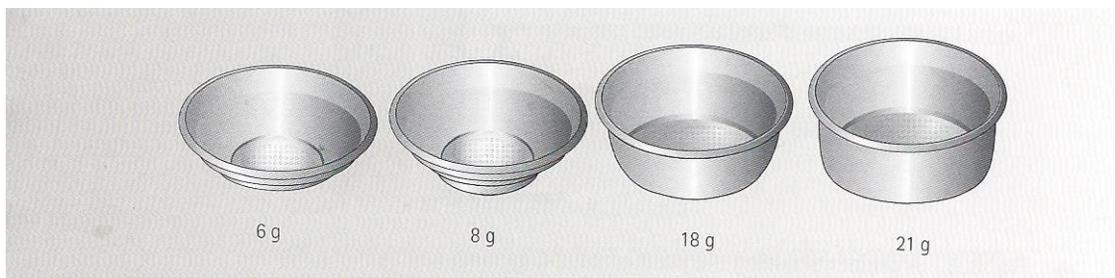
The amount of ground coffee in grams that a filter basket will hold can also be influenced by the barista's dosing and packing technique. Using the same size basket, same grinder, same grinder setting, same coffee blend and same tamper, two different baristas will dose different quantities of ground coffee into the same basket. Why? Both have used a different dosing and packing technique. Use some gram scales and test for yourself?

It is important to know that various sizes of filter baskets are available. A barista may need to use a different-size filter basket when:

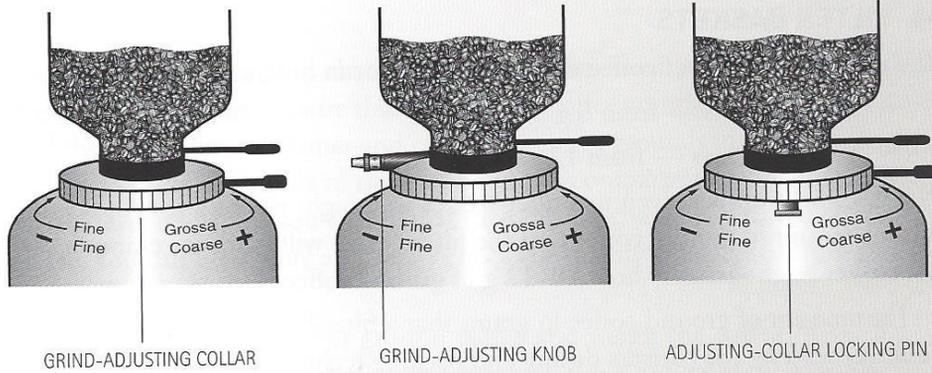
- The coffee type or blend is changed.
- The size of the cups and/or glasses is changed.
- Incorrect extraction occurs.

Coffee break

If the size of the filter basket is changed, you will have to adjust the grind, the quantity dispensed from the dosing chambers and/or change the number of times you pull the dosing lever.



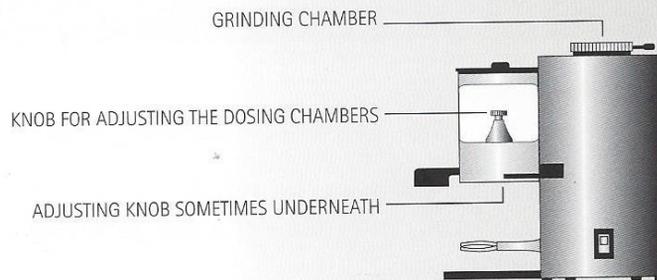
Four typical filter baskets



Three grinders, showing the parts for adjusting the size of the grind particle



A ground-coffee compartment, showing six dosing chambers and an adjustment knob



A grinder, showing the position of the grinding chamber and the possible position of the knob for adjusting the dosing chambers



MANAGING THE GRINDER

Grinder management incorporates all that you have learnt so far. Before continuing, it is important that you clearly understand the reasons for adjusting the grind and how to adjust the grinder. It is the adjustments to the size of the grind particle that will ultimately control the extraction and the quality in the cup – that is, if all other variables, including the equipment and roasted coffee beans, are humming.

As mentioned earlier, the grinder is the key to the perfect espresso. It is often considered the weakest link in producing quality extractions. This is partly because the barista does not understand the importance of the grinder and how to manage it throughout the service period. Ground coffee becomes stale quickly and loses its volatile aromas. Remember the following:

1. Try to grind your coffee either on demand or at the last possible moment. By grinding only enough coffee beans for each order, you will ensure you only use the freshest ground coffee to produce a more consistent and better extraction
2. You can easily grind on demand when you are using the sight and sweep method for dosing the filter basket.
3. Keep your ground coffee to a minimum during quiet times and towards the end of the service period.

RE-GRINDING

You should **never** re-grind coffee to make it finer. If you place ground coffee back in the grinder in order to grind it finer, you might cause a blockage in the grinder and damage it. If you are experiencing extraction problems because of pre-ground coffee, consult your manager or coffee supplier.

COFFEE QUANTITY

The amount of ground coffee to use per shot depends on a number of variables, such as:

- Type of blend of coffee.
- Size of filter basket.
- The size of your regular cups or glasses.
- Type of espresso machine and/or height of the shower screen.
- The barista dosing and packing method.

Part of the barista's work routine is to keep the grinder clean during the service period. Built-up coffee oils become rancid, tainting the coffee and then the espresso. The grinder and the bench area will quickly become dirty and messy unless it is cleaned, baristas should continually monitor the grinder and the work area to make sure they are always clean.



CLEANING THE GRINDER

Part of the baristas work routine is to keep the grinder clean during the service period. Built-up coffee oils become rancid, tainting the coffee and then the espresso. The grinder and the bench area will quickly become dirty and messy unless it is cleaned, baristas should continually monitor the grinder and the work area to make sure they are always clean.

REGULARLY

- Wipe any milk and/or coffee splashes off the grinder.
- Brush away any excess or spilt grounds from on and around the grinder .

You will find a vacuum cleaner is very effective for cleaning coffee grounds from inside and around the grinder. Use a clean, dedicated nozzle attachment for the vacuuming.

CLEAN THE BEAN HOPPER

Coffee oils build up on the inside of the bean hopper. The hopper must be cleaned regularly to remove any build-up of stale and rancid oils. The stale or rancid oils will taint the flavour of the newly placed beans, daily cleaning of the hopper is recommended.

CLEAN THE GROUND COFFEE COMPARTMENT

Coffee grinds and oils build up inside the ground-coffee compartment. They will combine with the freshly ground coffee and taint the flavour of the espresso. The compartment must be cleaned daily to remove any build-up of stale coffee grounds and oils.

CLEAN THE GRINDING CHAMBER

Over time, coffee grounds and oils build up inside the grinding chamber. They become rancid as they oxidise and are subjected to heat from the grinding process. They will taint the flavour of the espresso. The grinding chamber must be cleaned regularly to remove any build-up of stale or rancid coffee grounds and oils. Weekly cleaning of the grinding chamber is recommended. For some grinders, and depending on the quantity ground, it might be necessary to clean the grinding chamber more often.

When you are cleaning the grinding chamber, ensure that the grinder is unplugged from the power point. Consult your operating manual, manager or service technician for the specific cleaning procedure for your type of grinder.



TO CLEAN THE GRINDER

1. Close the bean hopper gate.
2. Grind any beans remaining in the neck of the grinder.
3. Switch off the grinder.
4. Remove the bean hopper from the grinder.
5. Empty the beans from the hopper into an airtight container.
6. Store the airtight container of beans in a cool, dry, dark place.
7. Wash the bean hopper, using warm water and mild detergent.
8. Rinse and dry the bean hopper carefully, using a soft, lint – free cloth.
9. Brush inside and around the neck of the grinder to remove any coffee grounds.
10. Discard any grounds from the ground-coffee compartment.
11. Clean the ground coffee compartment.
12. Clean the spilt-grounds tray and any surfaces around the grinder.
13. Put the clean and dry hopper back in position.

Notes on steps for cleaning the grinder.

The following notes refer only to those steps that require further explanation.

Step 4

Some bean hoppers are secured to the grinder with a screw. Be careful not to lose the screw and do not let it fall into the neck of the grinder.

Step 7

Use a lint-free, soft, absorbent cloth or paper towel to remove any coffee-oil residue. The bean hopper should be washed daily in warm water and mild detergent to ensure that rancid coffee oils do not build up. Use an unscented detergent. Do not put the hopper in the dishwasher, as the high temperature will buckle it. Do not clean it using scouring pads.

Step 10

It is not recommended to store leftover ground coffee for future use as it will go stale quickly.

Step 11

Use a suitable brush to clean the inside of the compartment. Be careful not to damage any chamber components. Discard any grounds dislodged during the cleaning process. Use a lint-free, soft, absorbent cloth or paper towel to remove any coffee-oil residue.



REPLACING THE GRINDER BURRS

The grinder is what ultimately prepares the roasted coffee bean for the perfect espresso. It is important to ensure that it is maintained and grinding efficiently. A well maintained grinder with sharp burrs will assist in preserving the flavour and aroma during the grinding process.

Coffee that is warmed during the grinding process is likely to lose some of its delicate flavours and aromas. Warm coffee grounds usually indicate that either the grinder cannot keep up with demand or the burrs are worn. Worn grinder burrs will grind unevenly, and the size of the grind particle will be inconsistent and result in incorrect extraction.. Refer to your grinder operating manual or contact your service technician for the service procedure. You should replace the grinder burrs when:

- The flat-burr grinder has ground between 300 and 500 kg of coffee.
- The conical grinder has ground between 900 and 1200 kg of coffee.

How fast the burrs wear will vary between establishments and will depend on:

- The size of the burrs.
- The quantity of coffee beans that have been ground.
- The type of coffee blend used – some beans might be harder than others.
- How the grinder is used.

A burr-replacement guide

COFFEE QUANTITY PER WEEK		MONTHLY CHANGE INTERVAL	
Kilograms	Pounds	Flat-Burr Type	Conical Type
10	20	7 - 12	20 – 28
20	40	4 – 6	10 – 14
30	60	3 – 4	7 – 8
40	80	2 – 3	5 – 7

All quantities given in this table are intended as a guide and for general reference only. They should not be relied upon for changing grinder burrs or servicing the grinder.



TROUBLESHOOTING GUIDES FOR USING THE GRINDER

When the possible solution is to call your service technician, you should first consult your manager or equipment provider.

Disclaimer These troubleshooting guides are for general reference or information only and should not be relied on for repairing or addressing problems or failures. When you do not understand the problem, do not attempt to fix it. Refer all equipment problems to your manager. Some problems might require the services of a technician. Any adjustments or repairs are undertaken at the operators risk and might void the equipment warranty.

Problem

Grind-particle size varies

Possible Cause	Possible Solution
Grinder burrs worn	<ul style="list-style-type: none">• Switch grinder off at power point; remove plug.• Replace burrs or call service technician.

Problem

Dosing lever jammed

Possible Cause	Possible Solution
Beans caught in dosing chamber	<ul style="list-style-type: none">• Empty dosing chamber.• Check for obstruction.
Dosing lever not returning to start position	<ul style="list-style-type: none">• Check for obstruction or call service technician.
Dosing lever broken.	<ul style="list-style-type: none">• Call service technician.
Dosing-lever spring broken.	<ul style="list-style-type: none">• Call service technician.



TROUBLESHOOTING GUIDES FOR USING THE GRINDER

Grinder switched on; motor turning but not grinding

Possible Cause	Possible Solution
Bean hopper empty	<ul style="list-style-type: none"> Put beans in hopper,
Bean hopper gate closed	<ul style="list-style-type: none"> Open bean hopper gate.
Bean-hopper gate jammed or broken	<ul style="list-style-type: none"> Switch grinder off. Try to close bean-hopper gate and remove bean hopper. Empty beans in hopper into a container. Check for obstructions or break.
Obstruction in neck of grinder	<ul style="list-style-type: none"> Switch grinder off at power point; remove plug. Close bean-hopper gate. Remove bean hopper. Empty beans in grinder neck into a container; discard. Check for obstruction or call service technician.
Obstruction in grinding section	<ul style="list-style-type: none"> Switch grinder off at power point; remove plug. Close bean-hopper gate. Remove bean hopper. Empty beans in hopper into a container. Empty beans in grinder neck into a container; discard. Check for obstruction or call service technician.
Grinder settings too coarse	<ul style="list-style-type: none"> Burrs are too far apart: adjust to a finer setting.
Grinder burrs worn	<ul style="list-style-type: none"> Switch grinder off at power point; remove plug. Replace burrs or call service technician.

Ground coffee feels warm

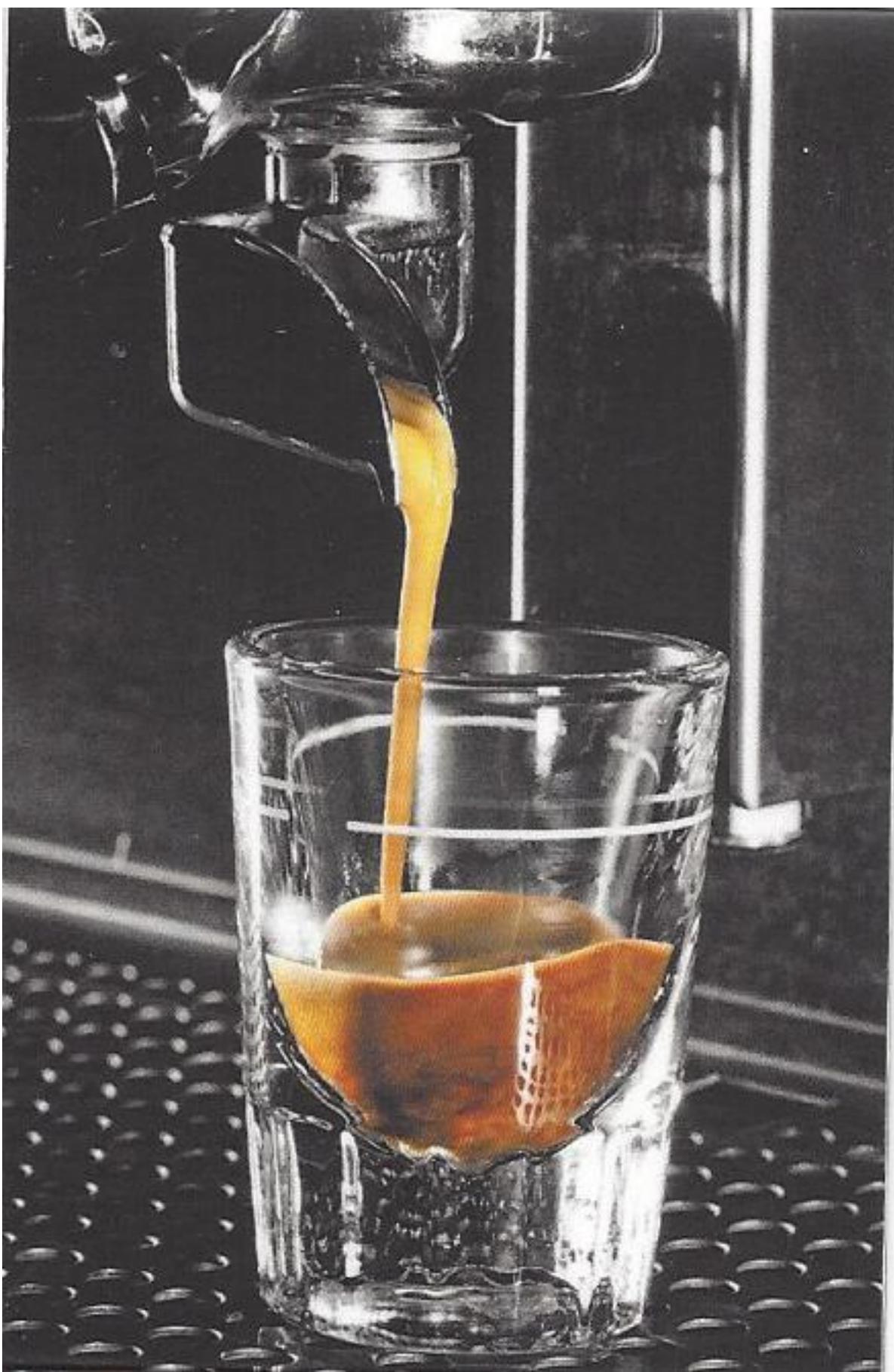
Possible Cause	Possible Solution
Grinder overworked	<ul style="list-style-type: none"> Replace with larger capacity grinder.
Grinder burrs worn	<ul style="list-style-type: none"> Switch grinder off at power point; remove plug. Replace burrs or call service technician.



TROUBLESHOOTING GUIDES FOR USING THE GRINDER

Grinder switched on, but motor not turning

Possible Cause	Possible Solution
Grinder left on and became overheated; thermal overload switch activated	<ul style="list-style-type: none"> • Switch grinder off. • Allow to cool for 20-40 minutes. • Ensure bean-hopper gate is open. • Switch grinder on or call service technician.
Obstruction in grinding section	<ul style="list-style-type: none"> • Switch grinder off at power point; remove plug. • Close bean-hopper gate. • Remove bean hopper. • Empty beans in hopper into a container. • Empty beans in grinder neck into a container; discard. • Check for obstruction. • Switch grinder on or call service technician.
Grinder burrs touching	Adjust to coarser setting.
'Auto cut-off' switch inside ground-coffee compartment not reset (if applicable)	<ul style="list-style-type: none"> • Remove lid of ground-coffee compartment. • Clean around flap of 'auto cut-off'. • Check for obstruction. • Dispense six pulls of ground coffee. • Refit lid of ground-coffee compartment. • Grinder should start again; if not, call service technician.
Motor burnt out	<ul style="list-style-type: none"> • Switch grinder off at power point; remove plug. • Call service technician.
Smoke of burnt smell coming from grinder	<ul style="list-style-type: none"> • Switch grinder off at power point; remove plug. • Call service technician.
Fuse tripped or blown	<ul style="list-style-type: none"> • Switch grinder off. • Try a different power point. • Switch grinder on or call technician.



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