MANUEL DE REPARATION
AUTOMATIC ESPRESSERIA

KRUPS ISSUE F:	ROWENTA ISSUE A:	SEB ISSUE A:

CONTENTS

0. COMPULSORY PREVENTIVE OPERATIONS:

a) Systematic replacement of tamping head seal

For any Krups, Rowenta or SEB product coming back into the Product Support flow, systematically replace the tamping head seal.

b) Krups models issues 0, A, B, C, bringing into compliance issue D.

For any Krups product coming back into the Product Support flow with an issue 0, A, B or C, bringing into compliance issue D must be performed using a repair kit.

See section 16: "Version 0, A, B and C, bringing into compliance issue D".

1. RANGE :

KRUPS

Pictographic model : XP7180	black facing	black panel	Claris filter (France)
Pictographic model : XP7200	black facing	silver panel	Claris Filter (France)
Pictographic model : XP7210	black facing	stainless steel panel	Claris filter (France)
Graphic model : XP7220	black facing	silver panel	Claris Filter
Graphic model : XP7230	titanium facing	stainless steel panel	Claris filter
Graphic model : XP7240	titanium facing	stainless steel panel	Claris filter + Auto cappuccino

ROWENTA

Pict. model: ES6800	brown facing	brown panel

SEB

Pict. model: EX6800	brown facing	brown panel

a) Follow-up of issue changes:

Changes in issue correspond to changes in construction of the machine

Krups issue	Rowenta issue	Seb issue	Change
0			
A			Change to U-shaped cake tank pin + U-shaped body window
B			Change to power board support Change to steam nozzle support
C			New grinder + - graphic display board (grinding time) + graphic power board (cleaning cycle) - pict. power board (grinding time)
D			Add overpacking Change software for cake tank capacity to 9 cakes Grinder calibrated, 7 sec grinding time, grinder crown in position "coarse grind" Add spacer on distributor switches + cam shaft to ensure spacers Add CTN protection Change pump -> machined pump Change steam nozzle seal Change drain piston with offset seal + rear stop Deburred taming head grid
E	0		Change to location of ejector rise detection switch Change to distributor (series mould drain piston, setting of moulding motor, 4 hydraulic connection pins instead of 3, overthickness of drain body for overpressure) Change to power board, shortened Change in grinding time 8 sec Change in thickness of cakes 12 - 15 mm Change in ejector cup with oblong holes Change to lower coffee grid holes 0.30 Change to coffee bean tank hinge made of charged PP Change in coffee bean tank with small ribs to retain oily beans
F	A	0	New cake tank switches control by pedal Add pump holder collar + bar on rear support (replacement of washer) Change display board V9.18 + power V29

2. COMPONENTS

The appliance is made up of:

- 1 1.3-L removable water tank
- 1 flowmeter to proportion the volume of water
- 1 15-bar pump + 16-bar relief valve
- 1 motorized hydraulic distributor
- 1 1300-W thermoblock system with:
  - 1 coffee water circuit and 1 steam circuit
  - 1 integrated percolation chamber
  - 1 NTC for electronic temperature regulation and two 216℃ thermal fuses
  - 1 system for discharging the ground coffee by means of an ejection ram and scraper
- 1 hydraulic plunger for closing the percolation head
- 1 grinder
- 2 electronic boards for:
  - thermoblock temperature regulation
  - mesuring the waterflow volume by counting flowmeter pulses.
  - 1-cup, 2-cup, hot water (graphic model), steam, cleaning and scale removal cycle operations
  - current function display via indicator light (pictographic models)
  - after service information (number of cycles per function, failure code....)

3. OPERATION :

NTC electronic temperature regulation:

Coffee: 108℃ (position 1), 111℃ (position 2), 113 .5℃ (position 3)
Steam: 150-140℃
Safety cut-off : 190℃

1-cup cycle:

See cycle description with hydraulic diagram.

2-cup cycle:

2-cycles of 2-half-cups sequencing.

Cleaning cycle: only applied to the coffee circuit.

Succession of cycles pumping 50ml of water / 2-minute pauses.(in cleaning) or 1 min (in rinising)

Scale removal cycle: applied to coffee and steam circuit.

Succession of cycles pumping 50ml of water / ~ 45 sec pauses.

Automatic priming function:

Priming is automatic if there is no flow during actuator down phase → pumping via steam nozzle.

Machine reset function if a fault occurs then blocking on fault if it is repeated on the next cycle: this function allows fugitive faults to be ignored.

Corrective rinsing function proposed automatically in event of fault 8 (coffee flow defect through clogging of coffee grids).

Function for detection of non-ejection of grind cakes with automatic ejection cycle.

4. PERFORMANCES :

Coffee temperature (50cc):

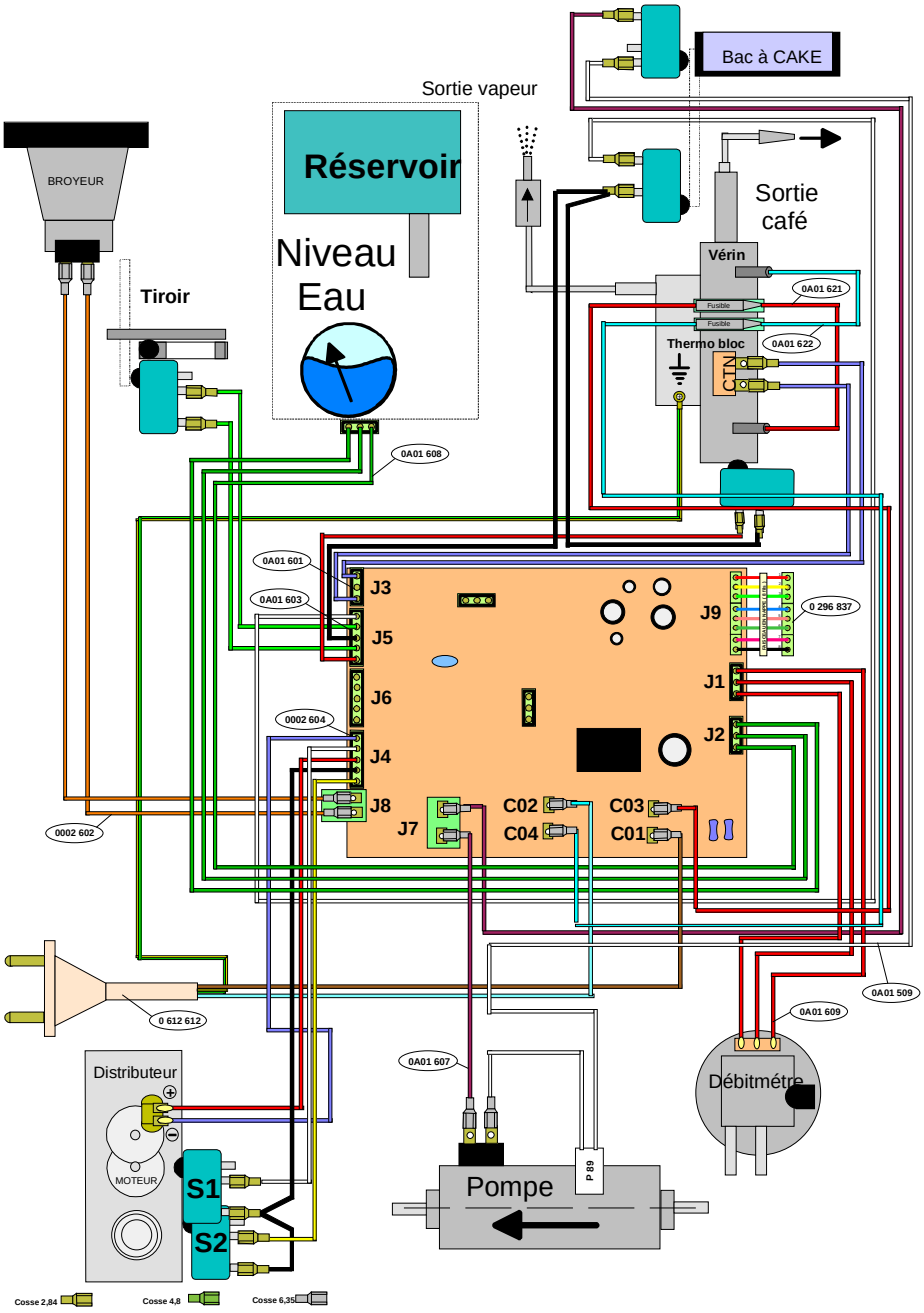
- First coffee: 75℃
- Subsequent coffees: 77℃

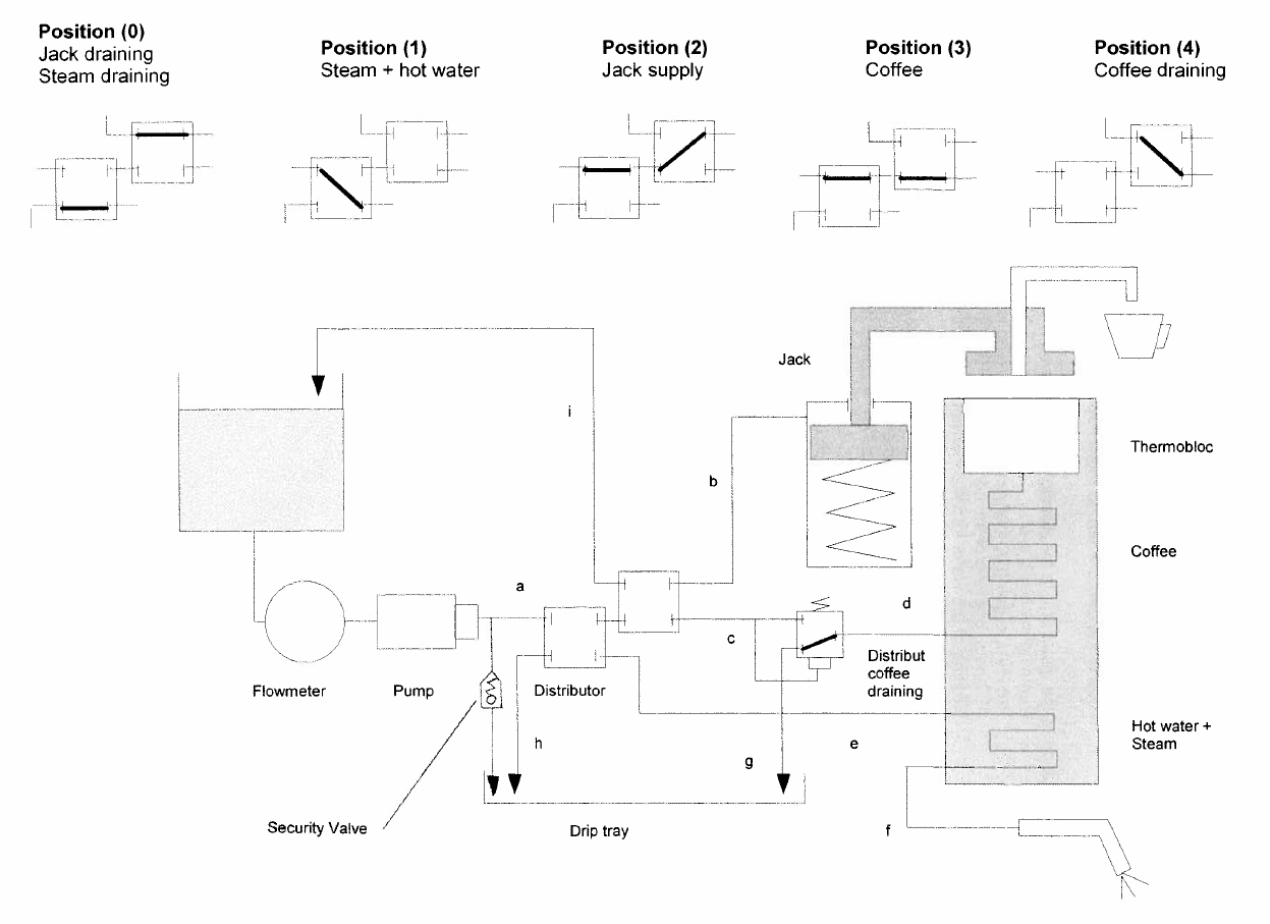
Coffee temperature adjustment: +/- 2℃ in position 1 or 3

Steam (125cc of water at 15℃, 1 min): 77 +/- 5℃

Hot water (125cc): 85 +/- 5℃

5. ELECTRICAL AND HYDRAULIC DIAGRAM:





6. TOOLING AND EQUIPMENT REQUIRED FOR DISASSEMBLY & RE-ASSEMBLY :

- Tamper Torx TX - 10H magnetized screwdriver (cover)
- Small Pozidriv No.1 screwdriver (control electronics protective cover)
- Gripping pliers (high-pressure tube clamps).
- Vacuum cleaner with small nozzle for ground coffee (clogging)
- Small, flat-tip screwdriver (high-pressure hose clamps)
- No.2 male hexagonal "Allen" key (coffee filter)
- Antistatic wriststrap for work on electronic boards
- Oetiker clamp ref.: 14100083 for crimping of Oetiker clamps

7. DISASSEMBLY :

	Parts to be disassembled					
	Facing panel	Cover	Body	Technical mount	Facing mount	Facing
Grinder	●	●	●			
Tamping head	●	●				
Control board	●	● if necessary replace board				●
Power board	●	●	●			
Pump	●	●	●			
Flowmeter	●	●	●			
Thermoblock / actuator	●	●	●	●		
Fuses	●	●	●		●	
Ejection switch	●	●	●	●		
Distributor	●	●	●	●	(●)	
Steam nozzle	●					●
Coffee nozzle	●	●				

Body: (provides visual access to most parts inside the coffee-maker)

Remove the facing panel (raise and disengage the 6 hooks).
Remove the coffee bean container.
Remove the cover (2 screws under the cup-rest lid + 1 screw under the coffee bean container + 2 clips at the rear removable by pulling on the rear cover rib.
(Do not remove the cup-rest lid or the or the cleaning tablet spout)
Remove the bottom 2 screws on the facing + 2 rear screws in the base.
Slide the body towards the rear: this can only be done when the 2 rear screws have been completely removed; vertically push back the cover which protects the electronic circuit.

Grinder
No particular instructions: see re-assembly.
Ring kept in place on the grinder bush by 4 clips.

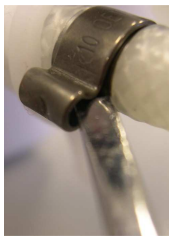
High-pressure hoses : 2 Types of collars :

Norma:

Unclip the clamp using a small flat-tip screwdriver (without removing it from the hose).
Disconnect the hose and bend it to prevent the braid slipping onto the silicone tube (do not pull straight):

Oetiker:

Open the clamp loop using a small flat screwdriver: be careful not to break or crack the tube)



Pipes held by Oetiker clamp must be replaced after disassembly.
Oetiker clamps must not be reused.

Pump + Relief valve

No particular instructions (to be confirmed with the new dampers).

Tamping head

Can be disassembled without removing the technical mount: be careful not to offset the tamping head mount when unscrewing.
→ access to the coffee outlet grid, the creamy seal and the tamping head seal.

Switch control plate on the actuator

Unclip the 2 clips (access from the top).
Compress the actuator by pressing on the top nut (using a socket spanner or equivalent).

Disassemble the switch control plate

Flowmeter

No particular instructions.

Power electronic board

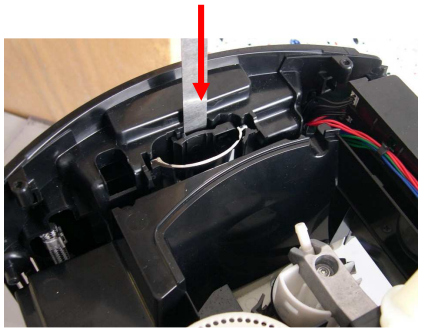
Electronic circuit mount maintained in the shroud by means of 2 clips at the lower part.

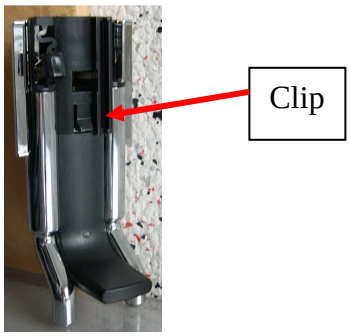
Control electronic board

Use an antistatic wriststrap
Remove the facing (2 screws + 4 clips accessible via side holes).
On the graphic model, it is possible to replace the display device (take particular care when disconnecting the bundle on the elctronic board).

Fuse
To access, remove the facing panel (2 screws in the lower part + 2 screws in the technical mount).
Raise the technical mount so as to disconnect the 2 bushings in the facing panel.
Determine why the fuses blew before replacing.
Check that there are no blow traces on the base and the tamping head.

Coffee nozzle
Unclip the coffee pipe.
Remove the nozzle clip by means of a rule or a screwdriver placed between the clip and the facing mount:





Technical mount: (provides access to the distributor and thermoblock/actuator sub-assembly)

Unclip and remove the coffee inlet pipe and disconnect the hose on the tamping head.
Remove the window.
Remove the mounting screws from the technical mount.
Disconnect the connectors and the electronic circuit wires and take the wires out of the grommets.
Remove the technical mount with the grinder in place (the wires connected to the actuator switches pass through the shroud opening).

Thermoblock / NTC / soldered lugs sub-assembly
There is no provision for dismantling this sub-assembly.
The only parts which may be replaced are:

- Tamping head parts (creamy seal, O-ring, coffee grid…)
- The ejection scraper
- The actuator switch control plate with its spring and 3 switches
- The interface and its seal
- The ejector rod "Barista" seal

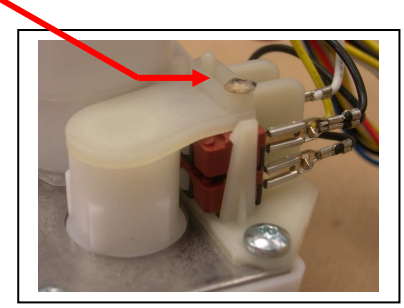
Remove the 3 thermoblock/actuator sub-assembly mounting screws in the base.
Disconnect the distributor/thermoblock coffee hose from the distributor
Disconnect the thermoblock/distributor steam hose from the thermoblock system (if necessary remove the drain from the distributor after disconnecting the coffee drain hose from the distributor).
Disconnect the steam nozzle hose.

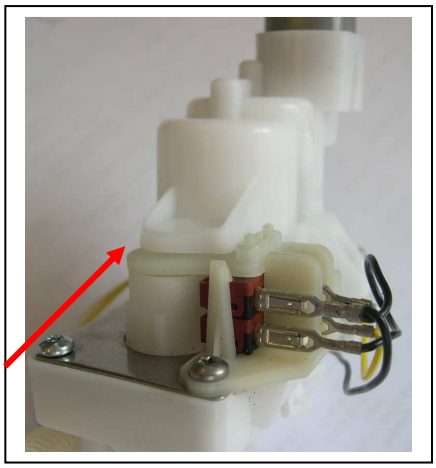
Thermoblock system and ejection scraper Interface
Remove the ejection scraper (this may be a little difficult as the screwdriver is not in line with the screw).

Cylinder rise detection switch:
Access after disassembly of thermobloc (attachment screws accessible under the thermobloc).
Switch normally closed.

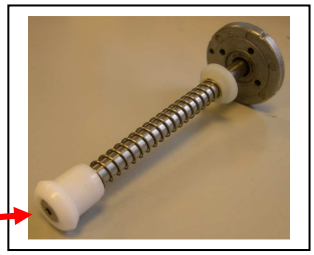
Distributor
Remove the 2 distributor mounting screws in the base (Phillips-head indentation).
Disconnect the distributor/thermoblock steam hose from the thermoblock (remove the drain from the distributor, if necessary after disconnecting the coffee drain hose from the distributor).
Remove the 3 thermoblock/actuator sub-assembly mounting screws in the base and tilt the unit so as to have access to the hoses connected to the distributor.
Access to the distributor may be facilitated by removing the facing panel (2 screws + 4 clips) and the facing mount (2 screws in the lower part).

Distributor switches
Cut the rivet on the end of the axes bearing the switches.
Remove the spacers.

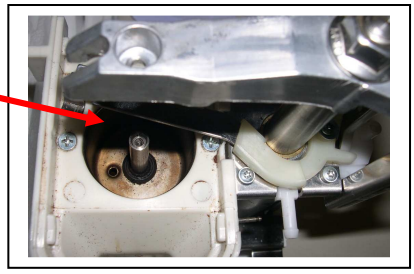




For versions of distributors with extension of the gear body: disassemble the distributor gear to remove the spacer



Ejection rod "Barista" seal
Remove the tamping head
Unscrew the thermoblock/actuator from the bottom of the coffee-maker and lift it up
Raise the ejector and remove the plunger head.
Remove the "Barista" seal.



Steam nozzle
Remove the panel and the facing (2 screws + 4 clips).
The nozzle is fixed in the facing mount by 3 clips (inaccessible from the front) and is unclipped by pulling on the nozzle.

Lead
No specific instructions.

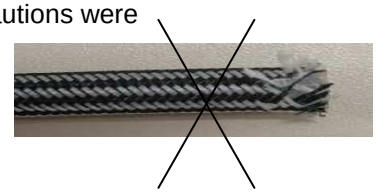
Removable tank
The valve gasket is difficult to replace.

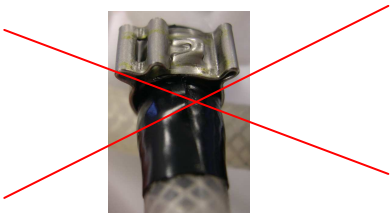
8. RE-ASSEMBLY :

Re-assembly is carried out in reverse order to disassembly.

Hoses :

Pipe held by Norma clamps:
Must be provided with a black adhesive protection.
It is possible to re-use a hose after disassembly provided disassembly precautions were respected: any damaged hose or one with a frayed braid must be replaced.
Use Norma Cobra 7.5 clamps.
Lock the clamps with gripping pliers and check that they have been properly assembled:

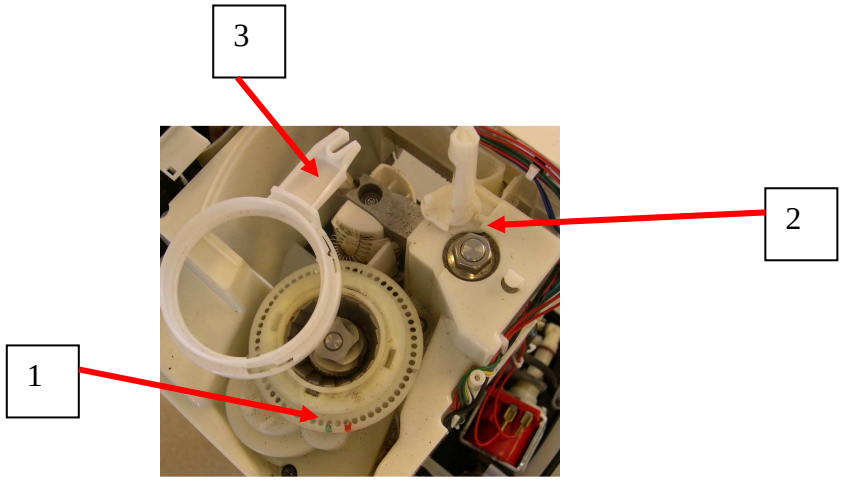




Pipe held by Oetiker clamps:
Dimension of clamps: 10
Pipes and clamps must be replaced after disassembly
Pipes without black adhesive compulsory (do not use a pipe whose black adhesive has been removed)
Use an Oetiker clamp reference: 14100083 (cutting pliers not recommended as non parallel tightenng).

Pinch until the 2 parts of the clamp loop are brought into contact.

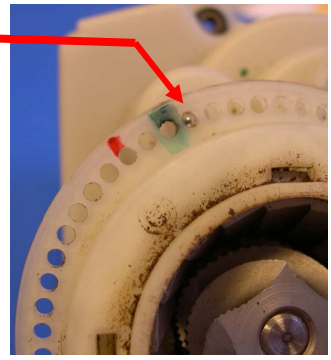
Grinder :



Indexing and assembly of the grinder crown to be performed on coffee maker:

- 1) For Krups versions, set the grinder using the blue marker or failing this the green marker (or red) of the ring positioned opposite the indexing ball

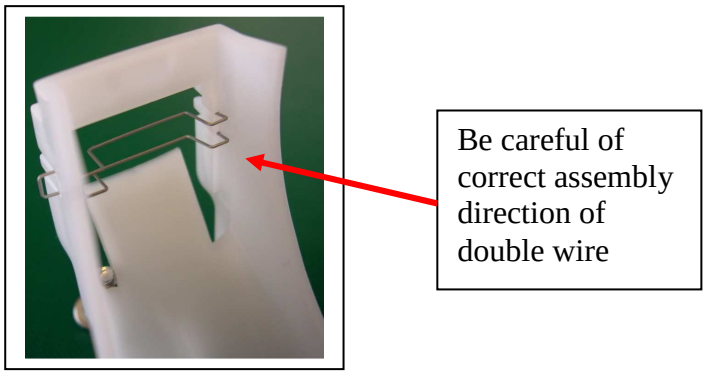
For Rowenta / Seb versions,
the ball must be positioned 1 notch before the green marking.



- 2) place the drive axis at stop on the “coarse grind” position
- 3) assemble the crown on the grinder (4 clips) and on the drive axis.

Ensure that wires go through the grommets.
NB: check that the brass spacers are mounted in the grinder screwing holes.

Coffee pouring spout:
Add a double wire to break the blocks of coffee coming out of the grinder (application on 19/06/06).



Grinder setting:

The grinders are run in and calibrated so no adjustment is needed.

After any intervention on the grinder or the electronics, or after setting of the grinding time, the thickness of the grind blocks must be checked: 12 to 14 mm.
Test conditions:

- measurement of cake thickness on 3rd coffee cycle
- strong espresso function 60 ml
- setting of grind fineness in "coarse" position
- coffee: small beans (max. average length 10.5 mm) that are also dry (important)

If the thickness of the cakes does not comply, you can check the pre-programmed grinding time (must be 7, 8 or 9 sec) and set this time if necessary:

- XP7200 models:
  - Consultation of pre-set grinding time
    Read the grinder setting 0, 10, 20, 30 or 40 in the small display on line 22 of the Product Support mode (see table below).
    Correct setting must be:
    - 10 (7s): for an Espresseria issue D
    - 20 (8s): for an Espresseria issue E
    - 30 (9s): for an Espresseria issue E with grinder identified 1 or 2 + green pallet:
  - Setting grinding time
    - **Remove the cake tank, slide and tank.**
    - **Press the key "steam" + mains connection**
      ➔ Illumination of 1 of the 5 facade lights (depends on position of the rotary selector and not programmed setting)
    - Use rotary selector to choose illumination of:
      - "cake tank" light for 7s of grinding time
      - "water tank" light for 8s
      - "clean" light for 9s.
    - Press the "service" key to validate.
      ➔ Illumination of "cake tank" light + "water" light flashing
    - Disconnect the coffee maker.

Light on version	On/Off	Cake tank	Tank	Clean	Calc
Position of grinder (read on line 22 of Product Support mode)	0	10	20	30	40
Strong coffee grinding time (s)	6	7	8	9	10

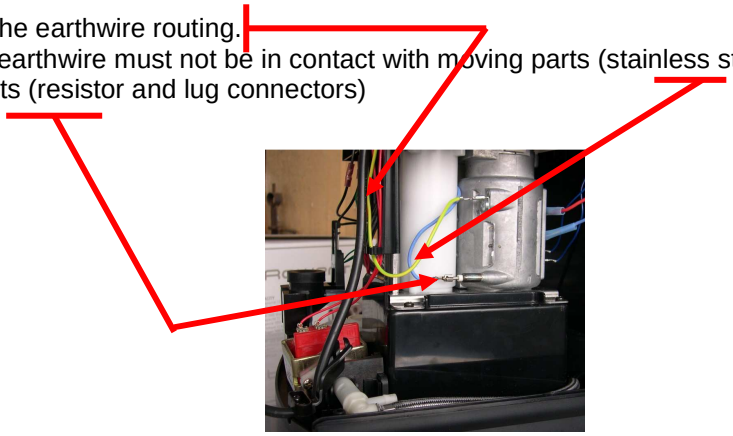
- XP7220 / 7240 models:
  - Consultation of preset grinding time and setting (see table below)
    - **Remove the cake tank, slide and tank.**
    - **Press the key "prog" + mains connection**
    - Follow the displayed instructions
    - Select the position corresponding to the desired grinding time:
      - "2" for 7s of grinding time (Espresseria issue D)
      - "3" for 8s of grinding time (Espresseria issue E)
      - "4" for 9s of grinding time (Espresseria issue E, with grinder marked 1 or 2 + green tablet)
    - Press OK key to validate
    - Disconnect the coffee maker

Position display	1	2	3	4	5
Strong coffee grinding time (s)	6	7	8	9	10

Lead

Respect the earthwire routing.

The lead earthwire must not be in contact with moving parts (stainless steel corners behind the actuator) or hot parts (resistor and lug connectors)



Wiring

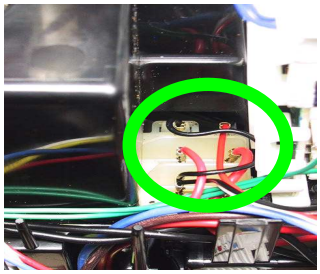
Grommets are to be respected in order to comply with interference suppression requirements: generally speaking, wires which ensure power transmission (thermoblock, pump, grinder) are not routed the same way as low voltage / low current wires.

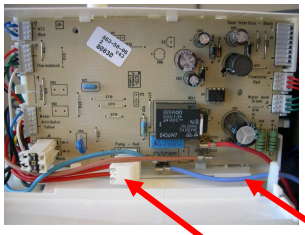
Wires are arranged in the following order:

1. - 2 green water-level wires + 3 red flowmeter wires
2. – control board connector
3. - 2 blue NTC wires
4. - 2 green draw switch wires
5. - 2 blue-red distributor motor wires + 3 black-yellow-white distributor switch wires
6. - 2 grinder wires

See wiring photos in enclosed document

Make certain of the correct position of the black connecting wire between the switch of the cylinder (risk of the sheath being cut by the cylinder's mobile fitting on Espresseria issue D):





Passage of wires to respect EMC (antiparasite):

- All wires are pushed down in the low position on the board
- The blue wire of the fuse must pass under the lug of the cord's brown wire

Pump

Respect the direction of the clamp closing device on the pump outlet (risk that this might get in the way of the cake tray housing).

The loop of the Oetiker clamp must be oriented downwards to guarantee non-contact with the base

Caution: the pressure relief valve must be immersed for 10 min in boiling water before assembly on the pump to ensure good sealing of the valve on max. operating pressure of the pump (16 bars).

Flowmeter :

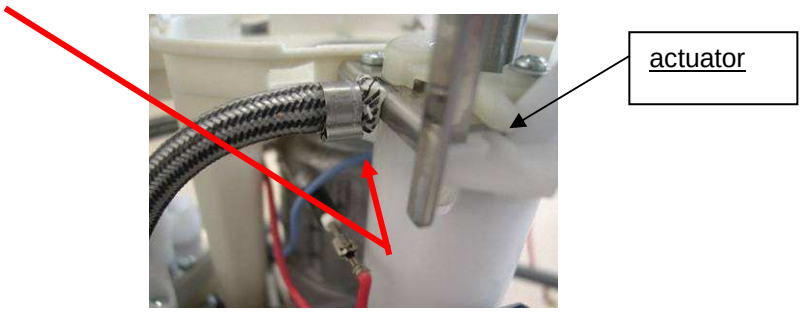
Respect hydraulic connections:

- pump tube on the flowmeter lid
- tank tube on the flowmeter casing.

Hoses must not be twisted or bent.

Thermoblock-actuator sub-assembly

Direct the device for closing the clamp on the actuator pipe downwards (risk that this might get in the way of the ejection scraper).



Tamping head

When screwing, be careful not to offset the tamping head mount

Thermoblock and ejection scraper interface
Take care when replacing the seal which must not protrude into the coffee chamber.

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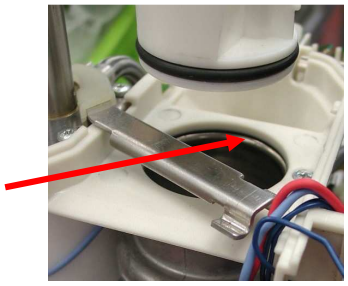
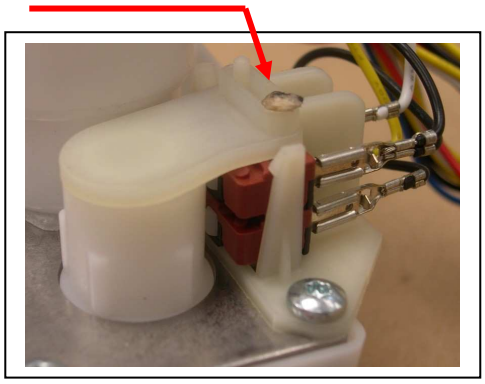


Cylinder rise detection switch:
Make certain there is no voltage on the wires of the cable

Distributor
Replace the 2 pins of the drain receptacle properly in the 2 holes of the base.

Check that all hoses are tightly connected, in particular the easily detachable drain hoses, and that the clamps are properly clipped onto the high-pressure hoses.
Check that the drain hose is not bent or caught

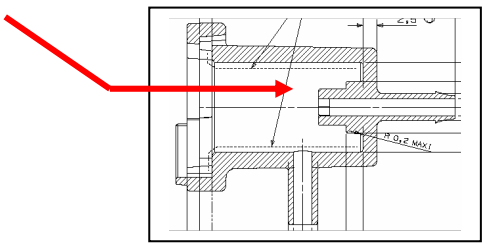
Assembly of spacer: crush the end of one of the 2 pins using a soldering iron. The pin must not be soldered with the spacer but just crushed.



The ejection rod "Barista" seal
Ensure that re-assembly is made the correct way up (lip facing upwards).
Only grease the ejection rod, and sparingly, with food grade grease

Distributor drain casing

Be careful to centre the spring properly on the bushing at the bottom of the drain body (risk that it might catch on the notches).



The drain plunger must be mounted in the body of the drain with food grade grease.
Ensure that the drain body is firmly locked down on the distributor (tighten counterclockwise).

Electronic boards
Connectors on electronic boards: check that connectors are well secured by the clips.
Check the coffee volume selector button for correct indexation (1/2 turn possible error).
Check ground coffee cake thickness after any work on electronics or the grinder.

Table of compatibility of software versions according to issues (issues shown are Krups grinder indices).

Models with graphic display

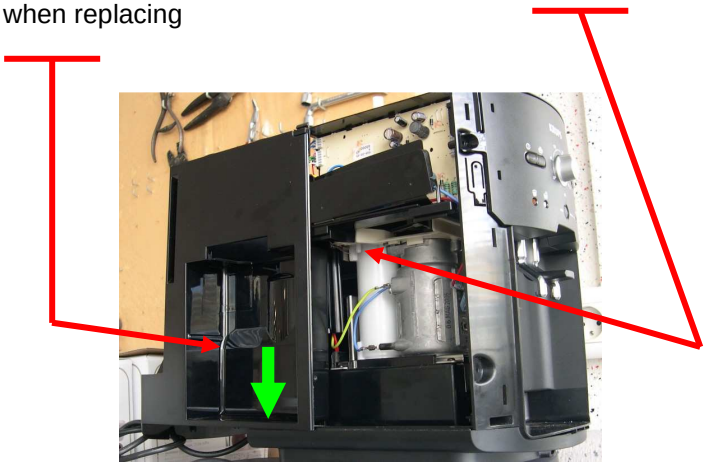
	Facade board	***Power board***
Issue 0, A, B, C	Set to issue D	V12 to V23
Issue D	V8.7 to V9.15	V12 to V23
Issue E and F	V9.16 ; V9.18	V25, V26, V29
	V9.18	V28

Models with leds

		Power board
Issue 0, A, B, C		Set to issue D
Issue D		V25 to V41
Issue E and F (Krups), Issue 0 and A (Rowenta)	50Hz	V43, V46, V48
	60Hz	V43, V49

Steam nozzle
Be careful when replacing the O-ring as this is a delicate operation.

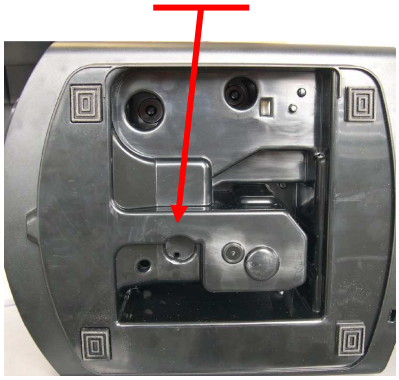
Body
There is a risk that switches might catch on the cake tray housing inside the body: press the body down firmly when replacing



Make certain of the correct position of the tank connection seal under the body.

9. SERVICING AFTER CLOGGING UP OF GROUND COFFE :

Remove the cleaning inlet and the drawer.
Scrape and suck up the ground coffee in and around the thermoblock tank using a vacuum cleaner with a small end piece (flexible hose with ~10 ext. diameter).
Carry out a cleaning cycle:
If the ejection ram works properly in the tank ➔ OK
If it sticks, activate manually with a rod inserted through the base:



Check that the drawer switch works properly: any ground coffee in the drawer slide channels could affect the control. If this is the case, remove the technical mount to clean the slide channels.
Renew a cleaning cycle.

Determine the reason why clogging-up occurred (see troubleshooting diagnosis table):

- grinder not compliant (quantity of ground coffee)
- electronics setting not compliant with the grinder
- ejection ram stuck in high position
- cake tray replaced partially full

10. CLEANING AND SCALE REMOVAL CYCLES :

- The cleaning light comes on after 350 coffees (or espressos).

- The scale removal light comes on after:
  - 12,000 cycles with water hardness setting 0
  - 10,000 cycles with water hardness setting 1
  - 8,000 cycles with water hardness setting 2
  - 6,000 cycles with water hardness setting 3
  - 3,000 cycles with water hardness setting 4

  with:
  - 1 coffee (or espresso) = 1 cycle
  - 1 "steam" function = 25 cycles (V16 picto power board and V6.8 to 7.0 Visu display)
    = 40 cycles (V17 picto power board and V7.2 Visu display)
  - 1 "hot water" function = 10 cycles

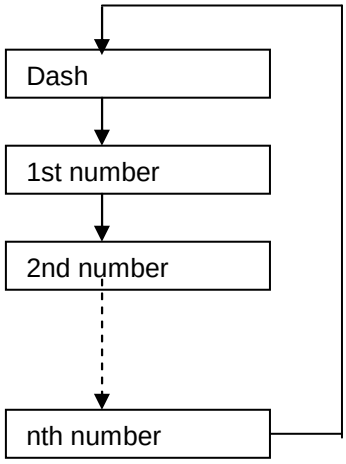
  The number of cycles is doubled when a filter is used (progamming in the display version).

11. PRE-LISTED FAULTS :

If the appliance is blocked because of a fault situation, identify the fault with the number displayed:

Pictographic model display mode:

- numbers from 1 to 9: fixed display
- number > 9: display of a dash and successively all the numbers.



Picto no.	Graph no.	Function	Nature	Servicing
1	1	PosWaterDistrib	The maximum time for the water distributor command has been reached without the tooth being detected	Check operation of distributor switches Check distributor rotation (risk of drop in LV supply if distributor motor current too high). Check for wrong setting or position of motor in the distributor housing Add the spacer above the switches
2	2	GroundCoffeeDistrib	The maximum time for the ground coffee distributor has been reached without the ground coffee proportioning switch being detected	Concerns the ground coffee version
3	3	Conditions for start of cycle	The distributor is in the original position but the actuator is not in the high position + The actuator is in the low position and the actuator switch is still closed	- Fault in the actuator high position switch (mechanical or electrical) - Distributor switch fault - Faulty electronic boards connection - Actuator switch short-circuited
4	4	Pump in actuator down phase	During the first seconds of pump start-up, volume is very low	Pump unprimed (start of self-priming cycle, fault 4 not displayed but recorded in memory of faults in line 6 of A-S mode) Distributor fault Actuator stuck in high position → not noted up to 5/10/05

5	5	Pump priming	During the first seconds of pump start-up, volume is zero	Flowmeter fault (wires reversed, connector offset, …) Switch or distributor switch control fault Drop of water on the flowmeter connector Pump fault Water flow blocked: hose caught, strainer missing (tank valve not actuated), tank badly connected ~~Unpriming of pump in actuator down phase (remove tank)~~
6	6	Pump in actuator down phase	The flow has not dropped (> 50ml/min) after the actuator has been filled to the maximum (80ml); there is a water leakage and the actuator does not fill	Look for the leakage source: hoses, actuator, priming valve? Switch or distributor switch control fault: incorrect detection of cams → error in distributor position in cylinder descent phase. Flowmeter hoses changed over Distributor problem (leakage at drain ..) Faulty connection between the 2 picto boards If no leak detected, replace power board V26 with V29
7	7	Pump in actuator down phase	The flowmeter signal has dropped (<50ml/min) but the actuator volume is insufficient (<25ml); there is a blockage in the circuit	Ground coffee clogged up: Tamping head stuck Ejector blocked Tank badly connected Hoses caught (pump suction) Pump unpriming defect if filter installation procedure not respected Fault on the pump switch Switch or distributor switch control fault? (component or control via cake tray) Pump priming fault (in presence of filter? coffee-maker stored over a long period without tank or with tank empty?) Water-level board or bundle defective Flowmeter defecftive (indication of flow < reality, poor connection)
8	8	Hot water and Coffee Pump	After a certain time of pump control during coffee or water flow, the circuit is considered to be blocked as the water hardly flows at all	Coffee grids plugged Creamy seal plugged Thermoblock plugged Switch or distributor switch control fault Tank removed during operation (pump unprimed).
9	9	Time_Setting	A NTC fault is detected; temperature too low or too high	NTC fault (component, bonding, connector, wires…) Coffee leakage on NTC (resistor value)

10	0A	Time_Setting	Heating resistor fault detected, heating was started but temperature has not changed	Thermoblock resistor fault (Faulty wiring connections) NTC unstuck NTC cracked
12	12		There was no ejection switch pulse during 2 consecutive empty cycles (2 faults 13)	No raising of the ejection pin: - excess clogging of grinds in chamber - escape of pin during rise of ejector (recall torque exerted by the spring) - switch incorrectly clipped - wires tensed - no release of paddle-switch at rest against metal plate ➔ place a washer th. 1mm + internal Ø 5mm between switch support screwing bush and metal plate - poor electrical connection - actuation pin on paddle-switch incomplete
13	13		There was no ejection switch pulse in the 3s following return to the distributor's original position: the machine requests the cake tank and the slide to be removed and replaced, and an empty cycle is proposed	
	0B	Spi_TransLCD	During message transmission, the message was not sent since there was no clock at the end of a TimeOut: faulty connection between the 2 boards	Find the bad connection
	0C		Faulty communication between the 2 boards	Disconnect and reconnect the coffee-maker
			Overconsumption on low voltage power supply: Distributor blocked, does not turn	Determine the cause
	0D		Faulty connection between the 2 boards	Find the bad connection
	0E		Defective power board Faulty connection between the 2 boards	Replace the power board Find the bad connection
	10		Defective power board Electromagnetic interference problem (overvoltage…)	Replace the power board Disconnect and reconnect
	FF			

12. TROUBLESHOOTING DIAGNOSIS & CORRECTIVE ACTIONS :

Diagnosing leakages may be facilitated by using cut-outs which can be helpful in supporting the tank and the cake tray.

DIAGNOSTIC	CAUSE	REPARATION	PIECES A CHANGER
Does not heat	Fuse blown	Identify the cause which led to the fuse blowing • NTC • Electronics	- Fuse - Thermoblock (due to damage to the NTC through overheating) - Bottom of the coffee-maker if there are traces of blowing - Tamping head and interface if necessary
	NTC defective or poor bonding	Resistor value accurate to 25℃: 100Kohm +/-5% NB: variation of 4 to 5 Kohm for 1℃ deviation with respect to 25℃	Thermoblock with NTC
	Defective electronics		Electronic circuit
	Resistor cut-out		Thermoblock
	Bad connection		
Cuts out	Insulation defect on fuse sheathing		Fuse clusters
	Black connecting wire between cake tank switches and cylinder high position positioned (sheath cut by mobile metallic part)		Electronic board + wire Position wire correctly
	Coffee has run onto resistor connectors or the NTC	Identify the cause which led to the coffee leaking	Interface/tank seal
Power board flashed	Connecting black wire sheath between 2 cake tank switches cut by mobile metal plate located behind		Electronic board + wire Position wire correctly
Coffee maker blocked with “Autotest” screen (graphic version)	Bug in V28 power board associated with V9.16 facade board		Replace V28 power board with V29 or display board V9.16 with V9.17
2 cups cycle does not operate (Versions with Leds XP7200)	Removal of 2 cups function in the “power” electronic boards of version > or = V39		
Does not flow at coffee outlet	Clogging	See below “clogging”	
	Thermoblock or water circuit scaled up	Remove scale	Replace scaled-up item if scale removal ineffective
	Thermoblock coffee circuit clogged up by coffee	Carry out 2 to 5 rinsing cycles	
	Electronic, distributor or flowmeter fault		Electronic board, distributor or flowmeter
	Coffee grids (high or low) clogged up	Clean	
	Creamy seal clogged up or defective	Clean	Creamy seal
	Silicone tube bent	Straighten the tube out	
	Drain plunger spring badly mounted (plunger blocked)	Remount properly	

Machine starts up Autotest not justified without recorded fault	Random operation of cake tank switch during cycle (vibrations, etc.)	Check cake tank switch control	
Water runs into the drip tray during coffee function	Small valve in the drain plunger is not tight (seal missing, clogged up by ground coffee) or is unclipped		Complete drain plunger
	Relief valve badly calibrated		Relief valve
Poor dissolution of cleaning tablet	Drain during stop of pumping of cleaning cycle	Check sealing of circuit between pump outlet and coffee outlet from distributor (leak from pressure relief valve in drip collector tabk)	Distributor drain piston
Coffee too weak (slightly coloured)	Grinder clogged by grinds: - presence of water in grinder - obstacle stopping flow of ground coffee	Remove the fixed grinder by unscrewing the crown, clean and dry inside of grinder Check the stainless steel wire on grinder outlet	Grinder if damage (oxidation, wear of vanes, etc.)
Cake crumbly, poor shape, partially dry, Explosion on opening of tamping head at end of cycle	Creamy seal allows too much liquid through or not enough		Creamy seal
	Ejection ram does not return far enough up	- Identify the cause: Rod too short - Retraction pin disengages before reaching the high position	
	Poor drain	Check drain circuit	
	Grounds too fine	Check grinder	
	Bad tamping of ground coffee	Check pump performance.	Replace tampng head seal

Vaporizes during coffee function or explodes on opening of tamping head	Temperature setting too high		Reduce temperature setting
	Coffe-maker used at altitude		
	NTC not compliant or poor bonding		Replace thermoblock
	Large volume of coffee (220cc) made with grinding which raises pressure	Change in coffee or grinder to be adjusted to coarse grinding	
	Any problem leading to a reduction in water flow		
	Thermoblock or water circuit scaled up	Remove scale	Replace scaled-up item if scale removal ineffective
	Pump flow/pressure specifications not compliant		Pump
	Coffee grids clogged up	Clean	
	Silicone tube bent	Straighten the tube out	
	Tamping head creamy seal plugged or misshapen	Clean	Creamy seal
Volume of coffee in the cup does not comply	Flowmeter defective		Flowmeter
	Faulty electronics		Electronic circuit
	Thermoblock or water circuit scaled up?	Remove scale	Replace scaled-up item if scale removal ineffective
	Drain during stop of coffee cycle “pre-moistening” pumping	Check sealing of circuit between pump outlet and coffee outlet from distributor leak from pressure relief valve in drip collector tank)	Distributor drain piston
A few drops of water drip from the steam nozzle at the beginning of the coffee function	This is a known and accepted phenomenon		
Water runs continuously via the steam nozzle during coffee function	Continuous flow: - flowmeter badly connected ➔ start of a self-priming cycle	Check flowmeter connections	Flowmeter Electronic boards: - Power board (picto) - Power or Visu board (graphic)
	Fit a new water filter in the tank (self-priming phase)		
	"Service" key stuck		Change the facing

Boiling in the tank at the end of the coffee cycle or rinsing	Poor draining: - Defective distributor drain plunger - Creamy seal allows too much liquid through - Bad thermoblock heat exchange		Drain plunger Creamy seal Insert power board with drain time extended from 8 to 10 secs (> V21 picto and > V14 graphic)

Ground coffee clogged up in the chamber	Grinder does not comply Too much ground coffee: cakes >14mm		Grinder Fit a lowered slide MS-0A01392
	Ejection plunger stuck in high position	Identify the cause of sticking: - excessive chafing of the ejection pin "Barista" seal? - ground coffee blocked between interface and tank? - lower nut of cylinder rod loosened - metal plate at right angles on cylinder rod deformed	- Cleaning or replacement of seal - Replace ejection ram spring 6.5 N ➔ 13N (to be done before 17 Nov.) - Check the state of the tank bottom on the Barista seal seating - Screw in the lower nut of the cylinder rod again
	Ejection ram does not return far enough up	- Ejection plunger rod too short (up to 4 mm!) - Retraction pin disengages before reaching the high position	Change ejection rod
	Unscrew attachment screw of ejector disc / axis	Clean and screw in again with a drop of food quality glue	
	Setting cakes in a column in the cake tank		<u>Coffee makers issue C :</u> - fit cake tank **without** rib inside - set electronic version with request to empty tank every 9 cakes . XP7220 / 7240: facade display board version >= V9.4 . XP7200: power board version >= V34
	Actuator switch short-circuited + 2-cup cycle (grinding without tamping head in the high position)		Change the switch
	Ground coffee blocked between tamping head and grinder spout		Check thermobloc drain
	Rotation of ejector riser pin before reaching high position of ejector	Check whether there is a parasite rotation torque exerted by the pin spring	
	Leakage at tamping head seal level	Check that the tamping head does not catch the grinder spout when it comes back up	Change the seal Change the grinder spout
	Coffee grounds collector with rib in bottom		Replace with tank without rib
	Coffee grounds collector replaced partially full		
Nozzle overflow at coffee outlet	Temperature too high	See "vaporize" problem	
	Coffee made after steam pre-heating without steam actually being produced		
	Creamy seal defective		Creamy seal

Leakage of water or coffee under the thermobloc	“Barista” seal of ejector rod defective or dislocated	Refit seal Clean excess grease in tank and under ejector piston Eliminate excessively slack seal	“Barista” seal of ejector rod
Leakage of water under tank receptacle	Strainer partially blocked (return of water from the cylinder raises the strainer and tank connecting seal)		Strainer
Not enough cream on the coffee	Defective "creamy" seal		"Creamy" seal
No steam	Water filter too effective for fairly soft waters		Tank with slight leakage fitted in bottom for partial shunt of filter
	Steam nozzle adaptor before 15/10/2005 (dia. 1.3)		Steam nozzle adaptor (dia. 1.15)
	Steam reducer in ABS instead of PA		Steam reducer compies
Descent and/or slow rise of cylinder with or without low level flow of coffee	Distributor pinions badly distributed		Distributor
Ejector scraper blocked under ejector piston	Ejector piston cup unscrewed	Apply a drop of food quality glue and screw in again	Replace ejector piston subassembly
Faulty draw switch control	Grinder mounting spacer missing ➔ the mounting screw goes through the screwing bushing and blocks the draw control	Replace spacer	
Minimum level in the tank not detected	Electronic detection circuit positioned too low	Remount the circuit by pulling and slightly tightening the wires	Change the tank receptacle (modified mid-Nov. 2005) Replace tank
Impossible to set the date after unplugging or cut-off in current Display returns to intial date when filter fitted	Fault in the facing visu electronic board Problem resolved on production after 17/10/2005	Validate the date when the filter was first fitted proposed on display. Consequence: there will no longer be any warning message to replace the filter ➔ use the index on the top of the filter to memorise the date when the filter was first used	If the customer is demanding, change the visu board. Visu boards concerned by the bug: versions V6.8, V6.9, V7.0 and V7.2
	New date is prior to date programmed on fitting filter	- Validate the date when the filter was first fitted proposed on display. - Remove filter (Prog/Maint. /Filter/Remove) - Changer date (Prog/Setting/Date) - Refit filter (Prog/Maint. /Filter/Remove)	
Coffee maker requests Claris filter change before 50 litre or 2 month due date	Electronic bug on management of change in year for graphic versions before mid-Jan. 2006	Change filter as requested or date (problem will occur again following year)	Problem resolved by application of repair kit for compliance with issue D
Blue light 0/1 flashes rapidly	Drop in low voltage supply through excessive consumption	Check consumption of distributor motor (distributor opposing torque too high)	Risk of damage to the electronic power board

13. AFTER-SALES (A-S) MODE OPERATION

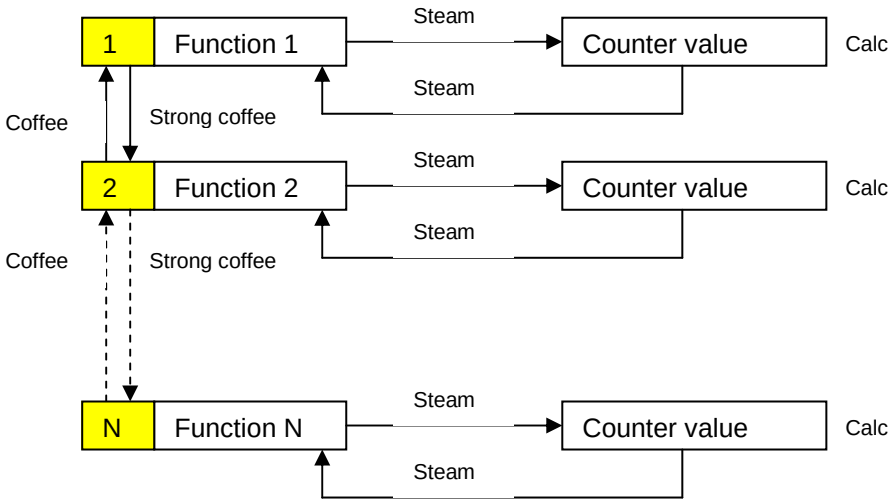
1st-level A-S mode

This mode makes it possible to access information on the rate of use of different coffee-maker functions.

Pictographic model

Access to A-S 1 via combination of the following keys: **Service + Strong Coffee key+ Mains Connection.**

- The Strong Coffee key enables functions to scroll and the Coffee key to return. No signalling.
- Access counter values of the different functions via the Steam key and return via the same Steam key. Signalling via the Calc light.



d	Function (pictographic model)	Unit
1	"Coffee" cycle number	unit
2	"Steam" function number	unit
3	Cleaning number	unit
4	Scale removal number	unit
5	Cleaning & Scale removal warning overrides: Total of number of cycles (coffee or steam) carried out after Cleaning or Scale removal light has come on No zero reset	unit
6	Writing index of the last fault (0,1,2,3): Depending on the index displayed, consult the corresponding fault in line 7, 8, 9 or 10 See penultimate fault in the previous index (1 if index 2 displayed, 3 if index 0)	code
7	Index 0 fault	code
8	Index 1 fault	code
9	Index 2 fault	code
10	Index 3 fault	code
11	Total coffee volume (exclusive of actuator volume and pre-soaking)	mL
12	Times switched on number	unit
13	Operating time: ON/OFF light on	min
14	Rinsing number	unit
15	Auto cut-off duration, (1,2,3,4,5 hours)	hour
16	Water hardness (scale removal frequency), (level 0,1,2,3,4)	value
17	Coffee temperature (level 1,2,3)	value
18	Cakes in the tray number	unit
19	Coffee cycles carried out since the last cleaning	cycles
20	Number of cycles carried out since the last scale removal (coffee, steam, water wieghtings)	cycles
21	Number of tray emptyings before cleaning of draw	cycles
22	Extra grinding time added to basic time	0,10, 20, 30, 40
23	Flag indicating whether injection of coffee is possible or not (actuator down or not): 1=fault (actuator in low position)	0/1
24	Flag indicating blocking of coffee, steam: positioned if machine cut off during cleaning or scale removal. 1=fault	0/1
25	Number of grindings	Unit
26	Software version	code
27	Date of board production	dd-mm-yy

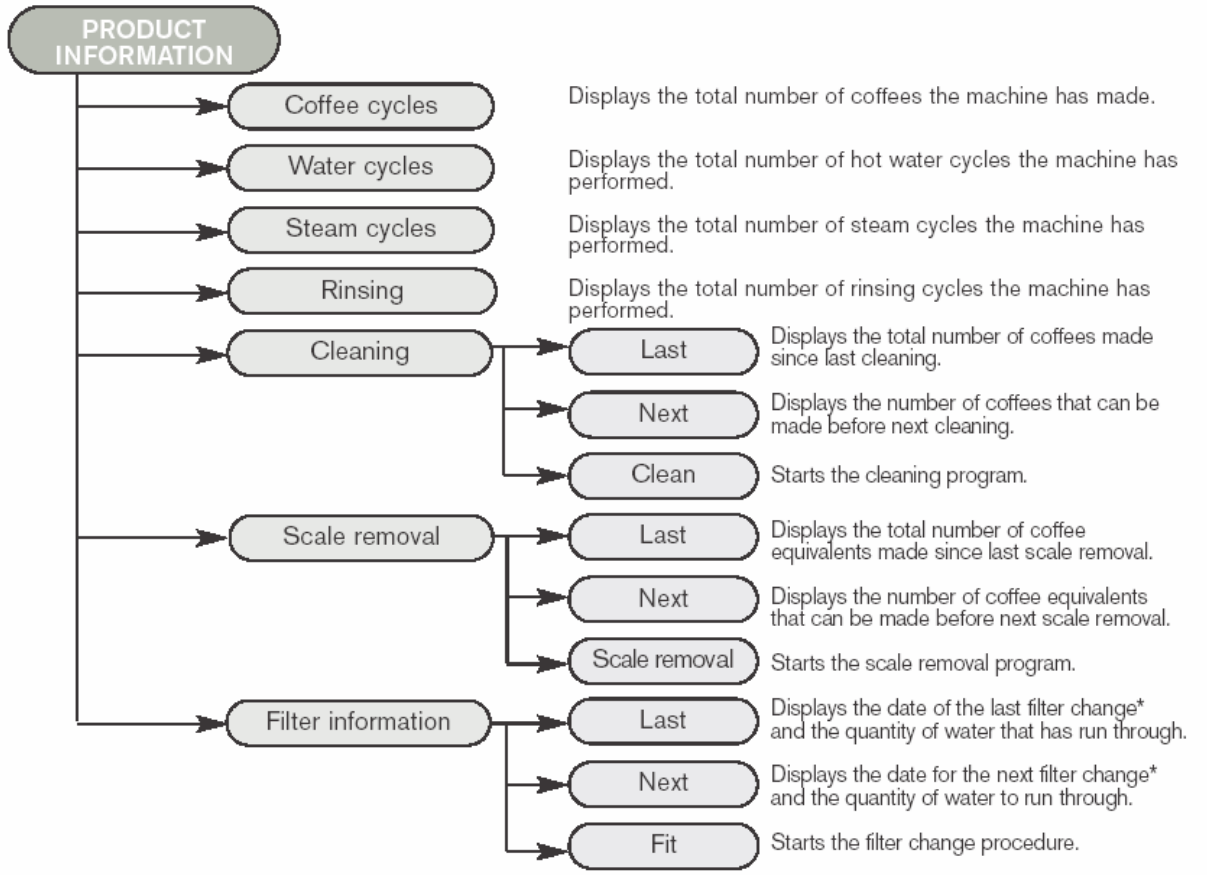
Exit from A-S mode via 0/1 key.

Graphic model

From "**Product Information**" (Prog + "Product Information" selection + Prog) access to A-S 1 mode via combination of **Prog + Water keys**.

d	Function (graphic model)	Unit
1	Total coffee number	No.
2	Espresso number	No.
3	Strong espresso number	No.
4	Coffee number	No.
5	Strong coffee number	No.
6	Double espresso number	No.
7	Strong double espresso number	No.
8	Double coffee number	No.
9	Double strong coffee number	No.
10	Hot water function number	No.
11	Steam function number	No.
12	Rinsing function number	No.
13	Production date	--/--/--
14	First use date	--/--/--
15	Graphic software version	Ref.
16	Power software version	Ref.
17	Model: (grinder)	Model
18	Coffee function water volume	ml
19	Steam function water volume	ml
20	Times switched on number	Nb
21	Operating time	min
22	Temperature level	Number
23	Water hardness level	Number
24	Auto cut-off duration	No. Hrs
25	Hour format	24 Hrs
26	Hour	--/--
27	Date	--/--/--
28	Language	French
29	Filter present	Absent
30	Auto-on	Not validated
31	Measurement unit	
32	LCD contrast	No.
33	Cake number	No.
34	No. coffee since last cleaning	No.
35	Last error detected (the last error is the first shown)	N°

Reminder of information available in the Product Information section (see manual) :

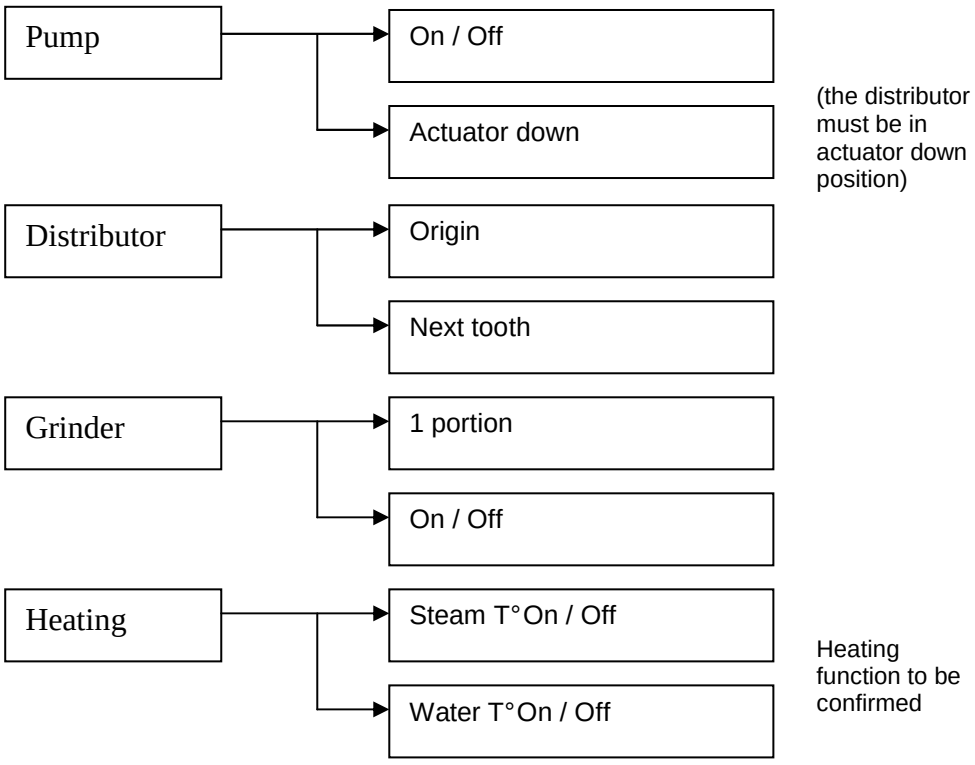

PRODUCT INFORMATION
Coffee cycles
Displays the total number of coffees the machine has made.
Water cycles
Displays the total number of hot water cycles the machine has performed.
Steam cycles
Displays the total number of steam cycles the machine has performed.
Rinsing
Displays the total number of rinsing cycles the machine has performed.
Cleaning
Last
Displays the total number of coffees made since last cleaning.
Next
Displays the number of coffees that can be made before next cleaning.
Clean
Starts the cleaning program.
Scale removal
Last
Displays the total number of coffee equivalents made since last scale removal.
Next
Displays the number of coffee equivalents that can be made before next scale removal.
Scale removal
Starts the scale removal program.
Filter information
Last
Displays the date of the last filter change* and the quantity of water that has run through.
Next
Displays the date for the next filter change* and the quantity of water to run through.
Fit
Starts the filter change procedure.

2nd level A-S mode

This 2nd level after-sales mode enables control and testing of power items.

Pictographic model (not available)

Graphic model
Access to A-S 2 via **OK key + coffee grounds collector removed + mains connection.**
Access to Controls and Actions by menus and sub-menus in the display
Exit from sub-menus via 0/1 key.



14. POST-SERVICING COMPLIANCY TEST :

- Checking correct operation of switches for detecting the presence of draw, cake tray and tank.
- Correct coffee operation with measurement of cake thickness
  12 to 14 mm
  Test conditions:
  - coffee: small, dry beans (max. average length <= 10.5 mm)
  - setting grind fineness to “coarse” position
  - strong espresso position 60 ml
  - measurement of cake thickness on 3rd coffee cycles
- Correct steam operation
- Correct hot water operation
- Cleaning the coffee-maker for delivery

15. GRAPHIC DISPLAY TEST

Enables presence of all segments to be checked in the display.
Press Prog + water + mains connection and follow carefully the order of operations:

- 0/1 key: figure 1 displayed
- Prog key: figure 2 displayed
- Steam key: figure 3 displayed
- Water key: figure 4 displayed

Turn the selection button in one direction to darken the screen
Turn the selection button in the other direction to remove display
Press OK: the blue light comes on

16. VERSION 0, A, B and C, BRINGING INTO COMPLIANCE WITH ISSUE D:

On each repair of an Espresseria issue C, B, A or 0, bringing into compliance of product construction equivalent to issue D using repair kits is required:

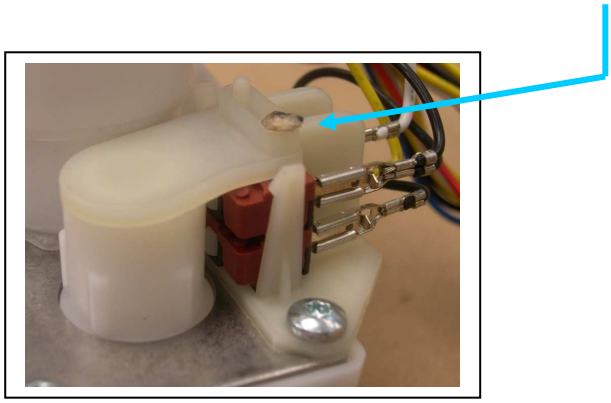
1. Replace the grinder by a run in and calibrated grinder.
   Place the green (or blue where there is one) marking of the crown opposite the ball.

2. Turn the grind fineness setting button to the "**coarse**" position.
   Fit the drive bushing of the grinder crown MS-0A01317 to the grinder.

3. Replace the tamping head seal.

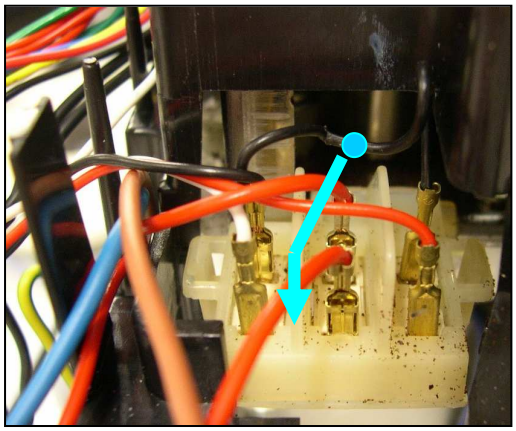
4. Replace the pump / fibre seal assembly with a new pump assembly with machined outlet / O-ring.

5. Add spacer MS-0A01495 to the distributor switches support + crush one of the two pins using the soldering iron.



6. Replace the distributor drain piston with the new one

7. Fold back the black wire connecting the cake tank switches to the front of the switches



8. Replace the electronic board with the "request to empty the tank every 9 cakes" version (instead of 10) :
   - XP7200: replace power board with MS-5925865
   - XP7220: replace facade with MS-5883885
   - XP7240: replace facade with MS-5883887

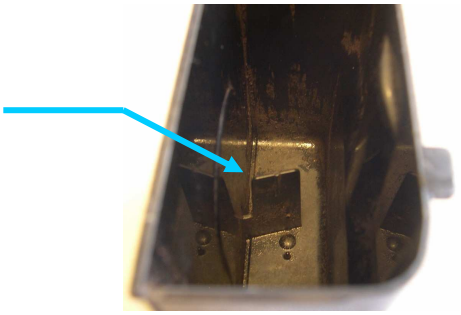
9. Set the grinding time to 7 sec (setting position No. 2 on 5 positions) :

   - XP7200 time setting procedure:
     - **Remove the cake tank, slide and tank.**
     - **Press the "steam" key + connect to mains**
       ➔ Illumination of 5 facade lights (depends on position of rotary selector)
     - Use rotary selector to select illumination of "**cake tank light**"

- Press the “service” key to validate.
  ➔ Illumination of “cake tank” light + “water” light flashing
- Disconnect the coffee maker.

- XP7220 / 7240 time seting procedure:
  - **Remove the cake tank, slide and tank.**
  - **Press the “prog” key + connect to mains**
  - Follow the displayed instructions
  - Select position “2”
  - Press OK key to validate
  - Disconnect the coffee maker

10. Check the cake tank: if presence of rib in bottom,
➔ replace with rib-less tank



11. Add alongside the rating label a label marked "TYPE XP72X0 D" (to identify appliances returned to compliance with issue D)

12. Check thickness of the cake (with small, dry coffee beans): between 12 and 14 mm (instead of 13 to 15 as previously).

13. Add information insert on removal of the 2 cup function and addition of a new long rinising function.

14. Pack the product in its packing where there is one or in the box for the kit with 2 styropore wedges.

For this operation to bring into compliance, 3 kits of parts (1 kit per electronic version), including:

Kit 1 for XP7200:
- Xp7200 power board
- "TYPE XP7200 D" label
- insert to remove 2 cup function + add rinsing function
- common parts

Kit 2 for XP7220 :
- XP7220 facade
- "TYPE XP7220 D" label
- common parts

Kit 3 for XP7240 :
- XP7240 facade
- "TYPE XP7240 D" label
- common parts

Common parts:
- run in calibrated grinder
- distributor spacer
- complete drain piston
- machined pump + O-ring
- tamping head seal
- kit box + 2 re-usable styropore wedges