

## ÍNDICE:

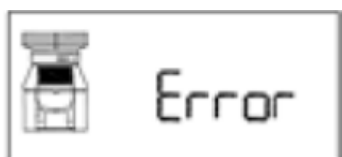
- 1.- Error list
- 2.- Replace the control board
- 3.- Opening the machine
- 4.- Replace the power board
- 5.- Dismantling motor and gear box
- 6.- Assembly of gear box
- 7.- Pushing plate adjustment
- 8.- Cup shaft's fixing ring replacement
- 9.- Cup shaft replacement
- 10.- Ball bearing replacement
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- 12.- Circuit diagram
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## 1.- ERROR LIST

### 1.1 Front cover not fitted correctly.

The front cover has a magnet attached to the top. Once fitted in the right position, the sensor placed inside the hopper track base (Marked in green) closes the safety circuit. The error message will then disappear, allowing you to operate the machine.

The display will show the following image:



## SOLUTIONS:

- Check that the magnet is on the front cover. Otherwise, replace the front cover.



- If the magnet is properly attached to the front cover, disassemble the Hopper track following the instructions given on the point 3. Once the machine is open, verify with a multimeter that there is continuity between both black wires of the magnet contact. If the front cover is properly placed, there will be continuity. If there is not, proceed to replace the magnet sensor.



- Once the front cover is placed, in case there is continuity and the error message remains, proceed to replace the electronic board.

## 1.2 Side covers incorrectly placed

The side covers (marked in red) trigger two magnetic contacts located on the base of the Hopper track. When these side covers are placed properly they close the security circuit and made the error message disappear.

The following picture will be shown on the screen:



### SOLUTIONS:

- Check if the magnet is properly placed on the upper side of both side covers. If there is any magnet left replace the side cover by a new one.



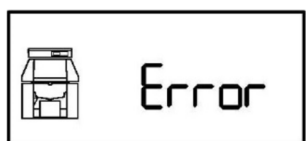
- If the magnet is on the side cover, disassemble the hopper track cover following point 3 of these instructions. Check continuity between both black wires of the magnetic sensor. With both sides are properly placed you must have continuity. If not the magnetic sensor must be changed by a new one.

If we have continuity and the machine doesn't run proceed to replace the electronic board.

## 1.3 Basket incorrectly placed

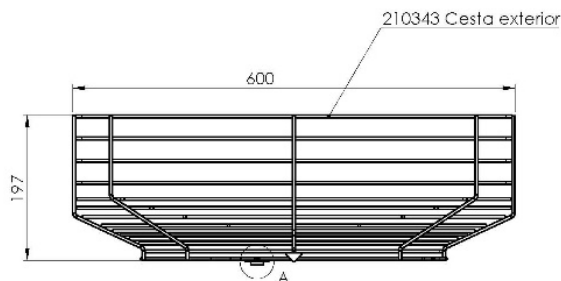
The basket has a magnet that trigger a magnetic contact (Marked in blue), placed on the hopper track base that closes the security circuit and when the basket is properly placed allows the machine to run.

The following picture will be shown on the screen:

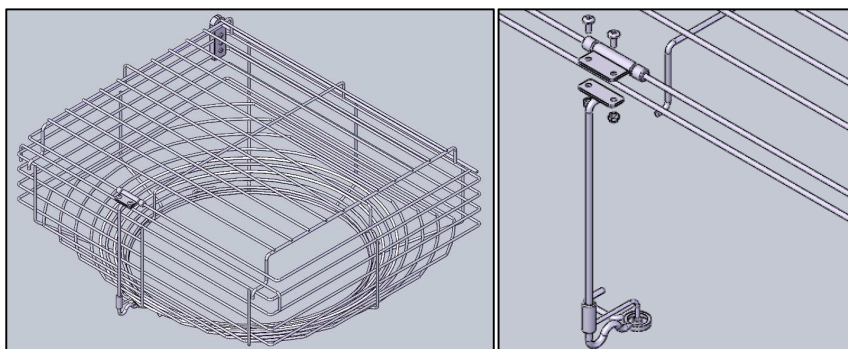


### SOLUTIONS:

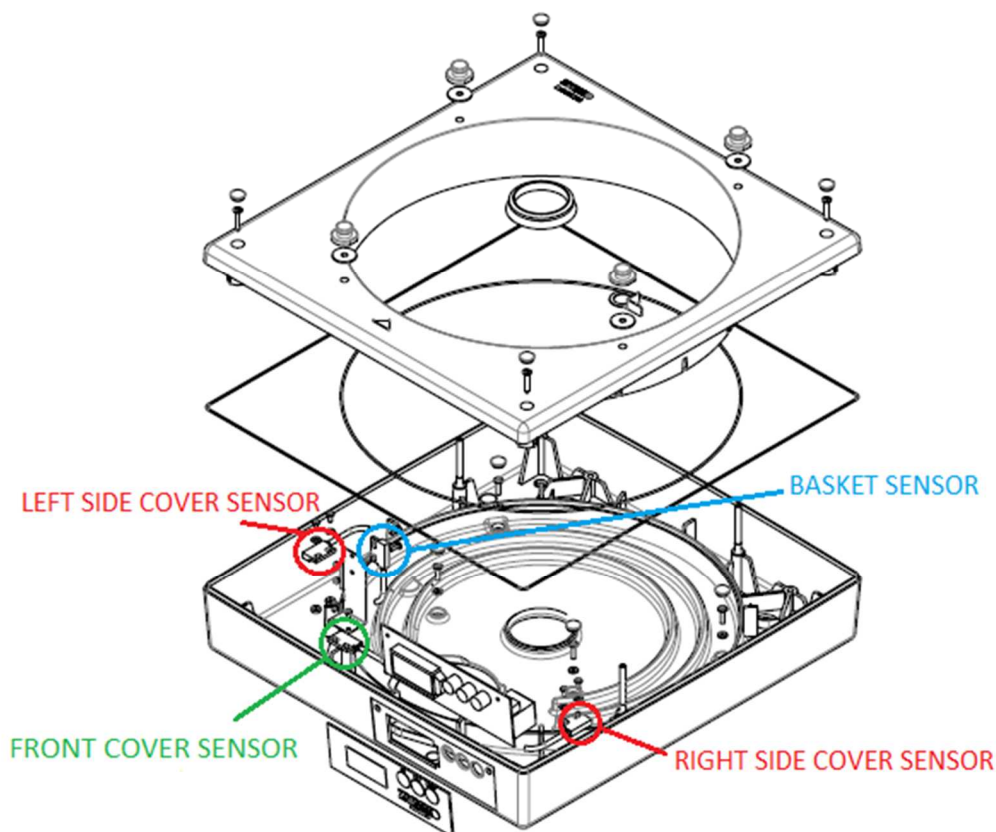
- Check if the magnet matches with front side of the machine and not to the back
- Check that the magnet (A) is placed on the basket. If not there is no need of ordering a new basket. There is only enough to order the following references (**I-985-M3 / 1503002 / I-965-M3x10**) and place the new magnet.



- On machines with the basket cover the magnet is placed on the cover closure. If the error appear due to doesn't have the magnet the next reference need to be ordered **210360 (Complete closure cover Z40)** and assemble as it's show on the next picture.



- If the magnet is properly placed, disassemble the hopper track cover following point 3 of these instructions. Verify with a multimeter that we have continuity between both black wires of the sensor. With basket properly placed you must have continuity. If not replace the magnetic sensor by a new one. If you have continuity and the machine doesn't run proceed to replace the electronic board.



## 1.4 Bins or sleeves incorrectly placed

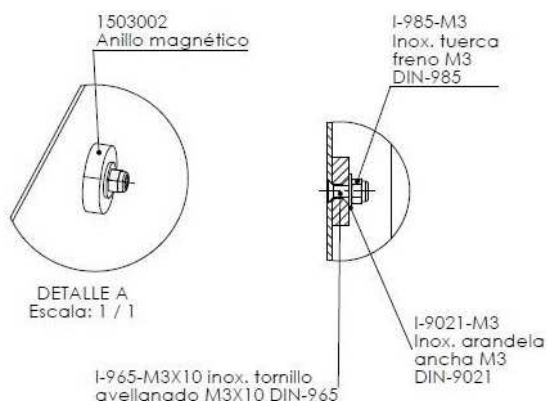
Both bins have a magnet on their side that trigger a magnetic contact, placed inner the machine, that close the security circuit and only allow the machine to work when they are properly placed.

The following picture will be shown on the screen:



### SOLUTIONS:

- Check that each bin has a magnet on their side. If not, you can order the following references **(1503002 / I-965-M3 / I-985-M3)** and proceed to assemble as it's shown on the next picture.

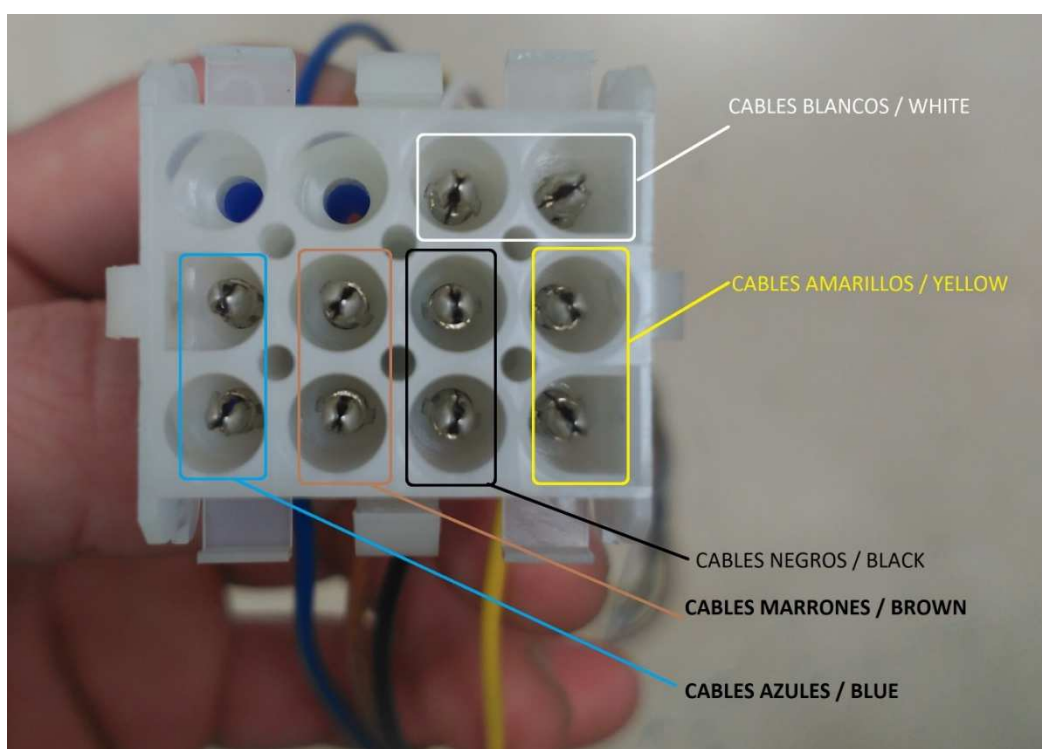


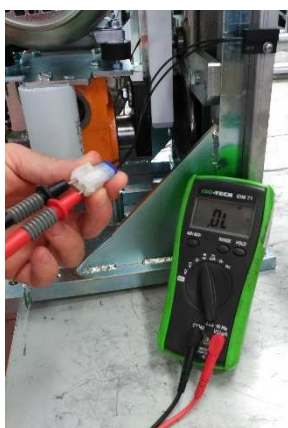
If both magnets are on the bins' sides, disassemble the hopper track, following point 2 of these instructions, to be able to access to both interconnexion plugs. Continuity must be measured on the 10 wires plug. **(See figure 1).**


Between blue pins (**left bin**) and browns (**right bin**). In case than one doesn't give continuity proceed to replace the magnetic contact.

**If there is continuity the error is due to the electronic board failure and you need to replace it.**

FIGURE 1



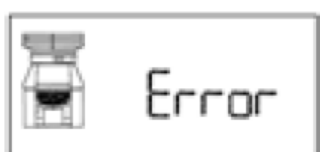


For test the magnetic sensor you must use a multimeter choosing the position . As seen on the picture you must measure both sensor wires, and if by closing the contact don't have continuity proceed to replace the sensor. In case you have continuity and the machine doesn't run proceed to replace the electronic board.

## 1.5 Filter tray / deposit incorrectly placed

The machine has the possibility of three different trays (filter tray, Self-service o deposit), regardless of which one has been mounted, it must be placed properly if not the error message will be shown on the screen.

The following picture will be shown on the screen:



### SOLUTIONS:

- If the error appears you must first the tray assembled has the magnet placed on their backside. If not, you must proceed to order a new tray.

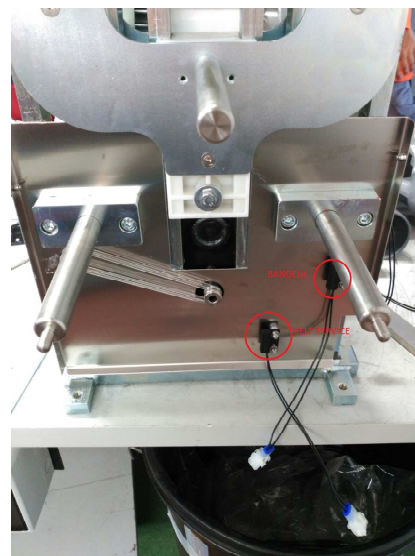


On the back of the filter tray, deposit or self-service we have the magnet which closes the security circuit. if this contact is not closed, the machine remains temporally out of service showing the error above mentioned on the screen.

- If the magnet is properly placed and the tray is well placed, you must proceed to disassemble the hopper track following point 3.

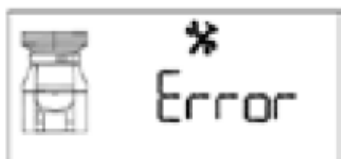


- Measure continuity on the 10 wires connector (see figure 1) between pins marked in yellow.
- If with the tray properly assembled there is no continuity proceed to replace the sensor. If there is continuity proceed to replace the electronic board.
- If this error appears while the machine is running, look over that filter tray, self-service or deposit are properly placed, as it may have moved out of it's position. In this case check the status of these parts. They shouldn't be distorted.



## 1.6 Cycle failure

The following picture will be shown on the screen:



The machine makes a cycle (orange) every 1,5 seconds. At that time a signal (continuity) is sent by a magnetic contact which is triggered (open / close) by the right cup runner. If by any chance in 4 seconds the signal does not get to the magnetic, the electronics leave the motor without voltage due to security reason, and the error message will be shown on the screen.

### POSSIBLE CAUSES:

- 1.6.1 **Magnetic contact error (Cycle Counter)**, when the runner is on its upper position (Picture 1) the magnetic contact is closed. When the runner goes downwards (Picture 2) it opens the magnetic contact.



Picture 1



Picture 2

## 1.6.2 Machine Blocked:

Working without the nuts causes that the cups hit the squeezer tray front or side. If the nuts are not well tight, these can be unscrewed leaving the cups free. When the cup is not well attached, it can get out of the shaft and hit the squeezer tray. This causes the machine blockage because the machine cannot finish all the squeezing cycle, so that after four seconds an error will be showed on the screen.



This can cause internal mismatches in the machine, the cup shaft thread can be broken or the security ring that fixes it to the runner (I-471-E28). For check if the security ring is not damaged it shall be enough ensuring that the shaft has no possibility of inward movement to the machine. If you can make this movement, proceed to replace the security ring as stated in point 5 of these instructions.

Internal mismatches will cause the machine remain blocked (Cup against the tray with the nut well tight) until the problems will be fixed. To fix this, follow point 5 of this manual.

If the shaft thread is damaged and is not possible to tighten the nut, the shaft must be replaced by a new one following point 7 of this manual.

The juicer gets blocked when squeezing, with the cups placed vertically in the lower position.

This can be due to:

- The balls of the squeezer tray are not completely screwed and the cups do not reach the end of the movement, preventing the switch from getting released. Check the balls position by sight and manually.
- The squeezer tray balls do not match the cup size. Replace it with the correct ones.
- The belt between the motor and the gear box is damaged and it slides once an effort is applied. You can normally hear the noise caused by the belt teeth getting released over the motor pulley. Replace it by opening the juicer as shown in section 5.6.
- Counter sensor fail; by turning off the machine and then turn on, it works two cycles and it stops, the fail is that the counter sensor is not working properly.



## 1.7 Thermal motor sensor

The following picture will be shown on the screen:



The message may differ depending on machine versions. In the UL version, will appear the message on the left and on other versions the right message will be shown.

The motor has, in the stator coil winding, a thermal sensor that opens when the temperature reaches 105° C (221 F). When the temperature reaches this value the safety circuit is opened by the sensor, shows an error on the screen and leaves the machine out of service temporarily. After a few minutes, once the motor temperature has dropped to acceptable value, the error disappears and the machine becomes operational again with no need of switch off from the mains.

The reason can be:

The fan placed in the main body doesn't work; hence it doesn't cool the motor down. If properly plugged in, check the tension arriving to connectors (between 110-240 volts AC depending on versions). If tension arriving and fan still not working, replace the fan.

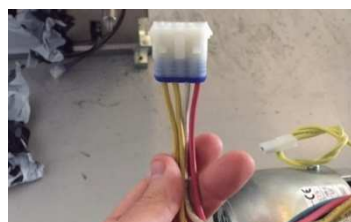
- The squeezer tray balls are not fully screwed and the motor is then subject to a bigger effort.  
Check by sight and manually.
- The squeezer tray balls don't match the cup size.
- The cooling grill is being partially or completely blocked by any object.

If the motor temperature is not clearly the reason of this error message, when the machine is cold or the error message doesn't disappear once the machine has cooled down. Check the following points:



1.7.1 Disassemble the hopper track following point 2 of the instructions to get access to the connections box placed inner the machine. Afterwards check if there is continuity between pins (Ter-out / Ter-out y Ter-in / Ter-in) in the connections box. If the motor is cool and there is continuity, you must replace the electronic board.

If there is no continuity in this plug, you must proceed to check continuity between both yellow wires of the motor plug.



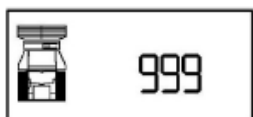
- If with the motor cold, there is no continuity, so proceed to replace the motor.
- If there is continuity, the problem should be on the main wiring, so proceed to replace it.

## 1.8 Peel counter function

The machine has an automatic system for warning when the peel collection bin is full. If you want to activate this function, please proceed as follows:

- Turn off the machine's power switch.
- With the machine off, press **SELECT**, and continue pressing while turning the power switch back on. Keep pressing for four seconds until you see the bins/chutes appear on the display panel alongside a three-digit figure.
- Once this screen appears you need to enter the number of peels the machine needs to produce before the alarm goes off. By pressing **SELECT** intermittently, the number of peels will continue to increase. If, on the other hand, you press **SELECT** continuously for more than two seconds, the number will start reducing.
- Once the number of peels has been selected, press STOP and that quantity will be held in the machine's memory.
- Once the machine reaches the desired quantity it will stop and the two bins/chutes on the display panel will blink. To continue juicing, the peel deposit must be emptied and then the ON button pressed in order to reset the counter.

The following picture will be shown on the screen:



### TO DEACTIVATE THE PEEL COUNTER.

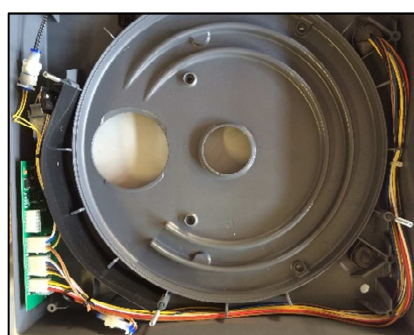
Repeat the previous operation and set the counter to zero.

## 2.- REPLACE THE CONTROL BOARD

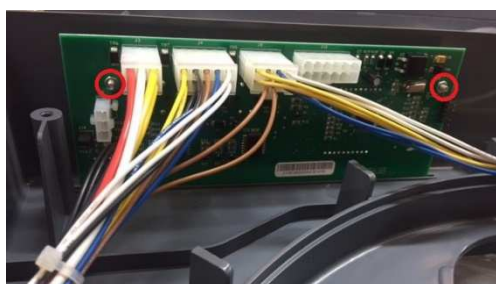
- Unplug the machine from the power supply.
- Follow points 3.1.1, 3.1.2, 3.1.3 y 3.1.4 for pull the basket out.
- Unscrew 4 hopper track nuts and its joints, pull 4 caps out from the roof and its 4 screws.



- Remove upwards the roof cover.



Once all plugs have been disconnected loosen both brake nuts (marked in red) and proceed to replace the electronic board.



**Highly important:** when the roof cover will be closed again, be sure that the weather strip is well placed and that all caps which covers the gap where the screws are placed, to ensure that the closure is hermetic.

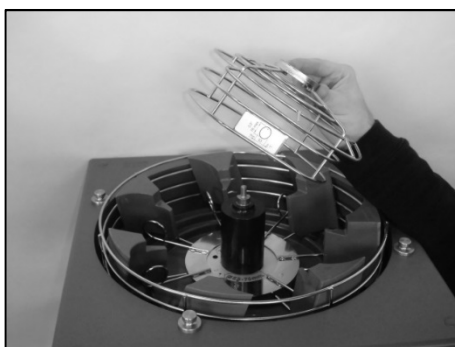
## **3.- DISASSEMBLE THE MACHINE** (12 min).

3.1.1. Unplug the machine from the main power supply.

3.1.2. Remove the external basket by turning it slightly.



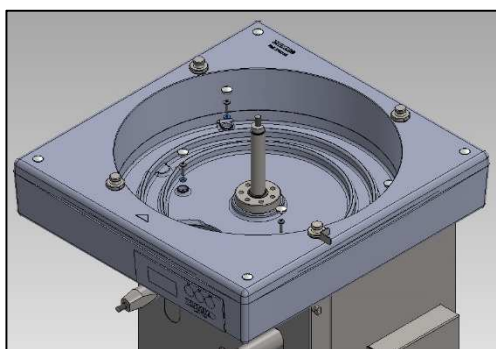
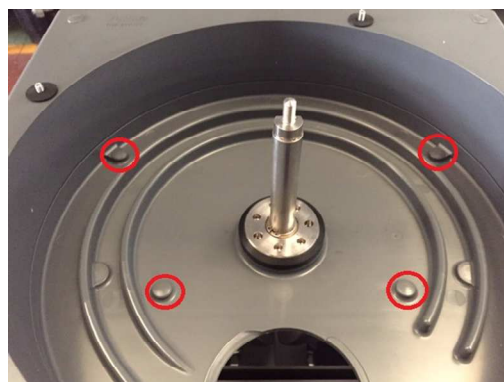
3.1.3. Unscrew the nut which is on top of the fruit classifier and take it out by pulling out.



3.1.4. Remove the hopper basket along with the hopper sector by pulling out until it gets completely released from its axis.



3.1.5. Remove 4 caps spotted in red and the screws below.



When remove the 4 screws and the 4 rubber washers\* you can disassemble the hopper track in one piece and then have easy access inner the machine.

\*It's highly recommended replace the rubber washers by new ones before assembling again to avoid future water leaks.

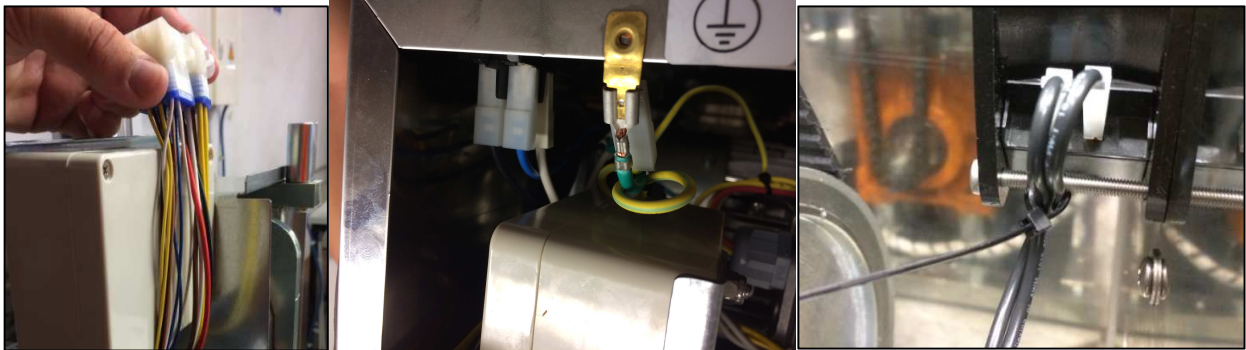


When disassemble the hopper track, be careful not to lose the sponge which covers the hole where the wires pass through (these sponges avoid that insects get into the electronics).

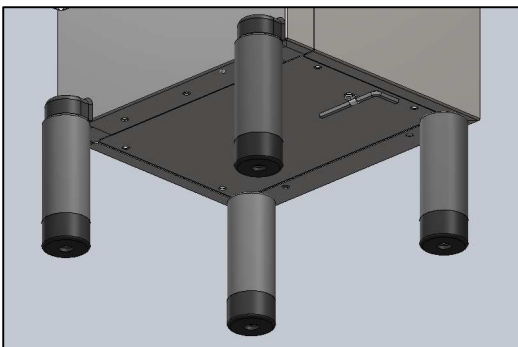


## 3.2 Access inside the machine

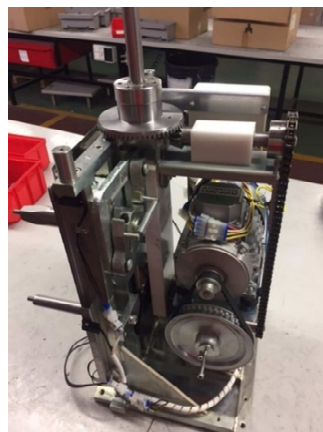
3.2.1 Lift the hopper track base slightly and proceed to unplug both connectors that came from the connections box, wires from the main switch, ground connection and fan wires.



3.2.2. Loosen 2-3mm. the 4 feet, unscrew four bolts (2 on the upper top and 2 on the bottom) which fixes the front body to the chassis and remove it carefully.



3.2.3 Unscrew both bolts on the bottom which fixes the back body to the chassis and remove it carefully.





## 4.- Replace the power board

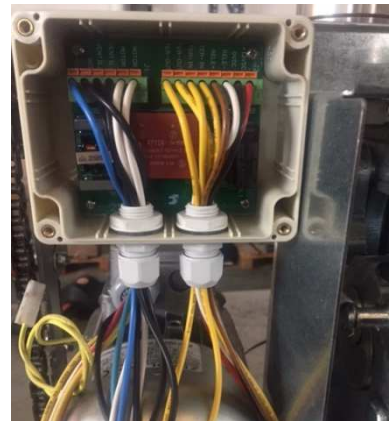
For test the board measure the voltage on the voltage input (**RED+ / RED-**) and if there is no voltage 110v / 220v verify on the machine mains input and the 6A fuse.

If there is 110v / 220v measure on the transformer output (**OVDC / +12VDC**) and there must be 12v. If there is no 12v of voltage proceed to replace the power board.

For replace the board you can get access opening the watertight box shown on the picture below.

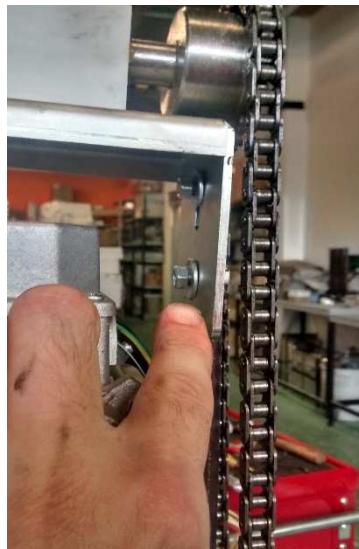
ATTENTION: the wires on the left have 100v and 230v, that's why the mains must be disconnected before doing anything.

Once opened, release the wires by pressing the orange strap of each connector, unscrew the screws which fixes the board and replace it.

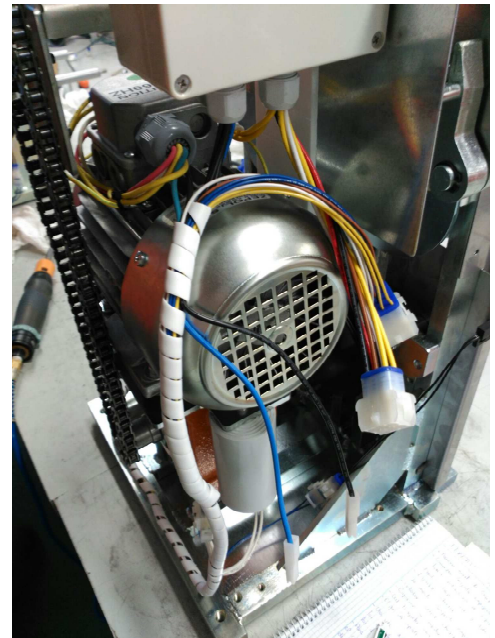


## 5.- DISMANTLING OF MOTOR AND GEAR BOX IN Z40

5.1. Disassemble the connections box holder and the feeder ensemble by loosen the screws and nuts shown on pictures below.



5.2. Unplug the capacitor and motor wires.



5.3. Remove the "M8x20E" bolt and washers that fix the rod.



5.4. Lay the machine down on the tray shafts and remove the Allen screws "M8x70" placed at the chassis bottom which fix the gear box to it.



5.5. Carefully remove the motor-gear box group.

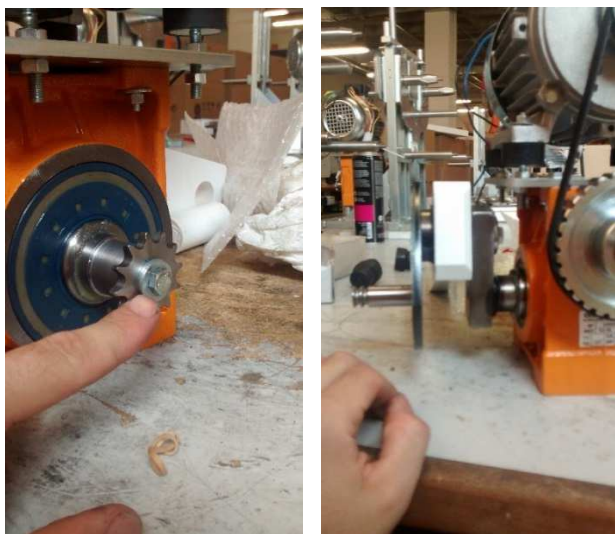


5.6. Remove the belt.

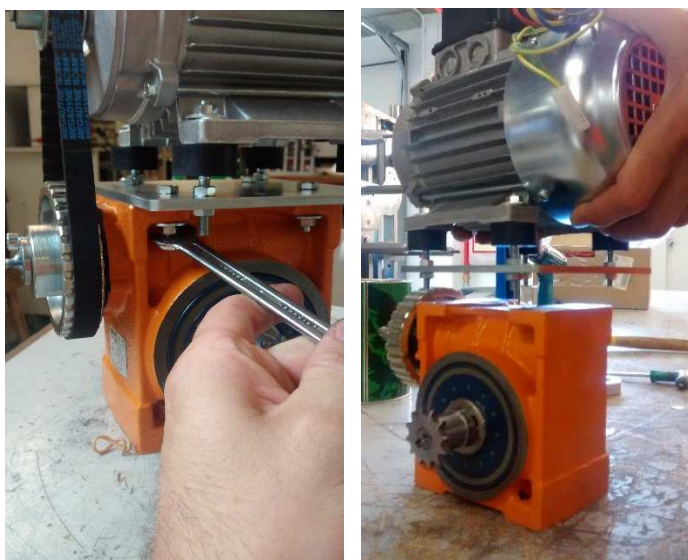


5.7. Unscrew and remove the hexagonal head bolt "M6x16", both washers "T-9021 M6" and extract the lower pinion to extract the pushing plate.





5.8. Remove the “T-933-M6x25 mm” hexagon head screws that fasten the motor Support to the gear box.



5.9. Disassemble the gear box 30L pulley, by taking first the “M6x16” Allen screw off, that fastens the unblocking screw. Then remove the unblocking screw. (In the variant Z40-25C the pulley there will be a 48L pulley ref. 210438.



## **6.- ASSEMBLY OF GEAR BOX OF Z40**

### ***ASSEMBLY OF GEAR BOX SUBSET AND MOTOR WITH COPIER AND CONNECTING ROD***

1. Grease the gear box shaft (210405), ratio 15:1.
2. Put the pulley 30L in (210408) / Pulley 48L (210438)
3. Place the screw along with the welded washer (210428).
4. Put in the "T-912-M6x16mm" screw to block the unblocking screw.
5. Turn the gear box and check that both, screw and washer are balanced.



- Put in the motor base plate (210410), as shown in picture, leaving 2mm to the right edge of the gear box and as much as possible behind.



Fasten the board to the gear box using 4 "T-933-M6x25mm", 4 washers "T-9021 M6" 4 nuts "T-934 M6".

**(In version Z40-25C there is no need of disassemble the shaft from the gearbox, so that both are one piece)**



- Place the 8x7x63 split pin in the gear box shaft.
- Put the axis into the gear box in position and place it into the gear box.
- Put the 5x5x18 split pin in the gear box shaft.



10. Put in the 12 teeth pinion chain. If it measures 25mm long you must put the  $\varnothing 14 \times \varnothing 28 \times 8$  separator in. if it measures 33mm long, then put the pinion straight away.



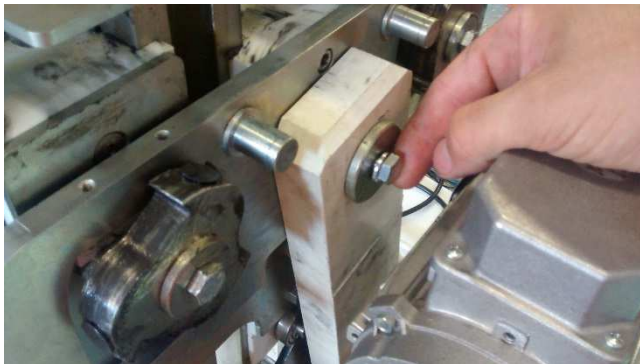
11. Fasten with 1 "T-933-M6x16mm" screw and 2 "T-9021-M6" washers.
12. Put the motor pulley in (210407) for 50Hz or (210406) for 60Hz and fasten it using 1 "I-933-M5x12mm" screw and 1 "I-9021-M6" washer.
13. Assemble the motor over the silent-blocks with 4 "T-934-M6" nuts and 4 "T-9021-M6" washers.
14. Put the "187L 050" belt. Straighten and stretch.



## **ASSEMBLY OF GEAR BOX SUBSET AND MOTOR IN CHASSIS**

15. Grease the surface of the connecting rod contacting the pushing plate, place the whole motor group along with the gear box, put the connecting rod in vertical position and put it into the bolt. Close it using a  $\varnothing 40 \times \varnothing 8 \times 5$  washer, trying to affix it as parallel as possible to the pushing plate. Then screw it using 1 "T-933-M8x20 mm" + 1 grower washer "T-127-M8 screw along with 1 grower washer "T127-M8".

16. Center the copier and pull backward the gear box.



17. Insert the 4 "T-912-M8x70" screws that fasten the gear box to the chassis.



## **ASSEMBLY OF THE SUBSET THAT TRIGGERS THE FEEDER**

18. Place the pinion backing (210301) with 1 "T-933-M6x16 mm" screw and 1 "T-934-M6" nut, fastening to the motor base.
19. Assemble pinion-feeder subset.
20. Affix the plate to the chassis using 2 "T-933-M6x16 mm" screws and 2 "T-9021-M6" washers.
21. Put 2 T-9021-M6 washers in and 2 T-934-M6 nuts to affix the pinion support to the pinion backing. Insert the screws to screw them once the chain is placed.



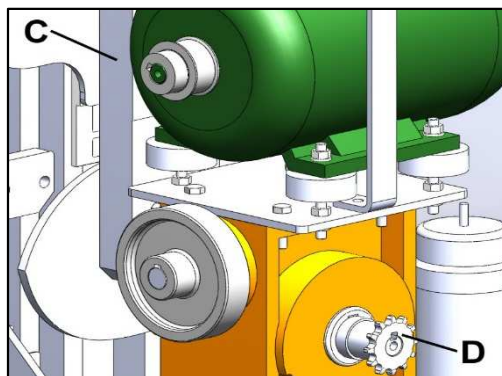
22. Place the washer in the closing chassis axis. Introduce the cone-shape crown group and fasten using a safety ring.



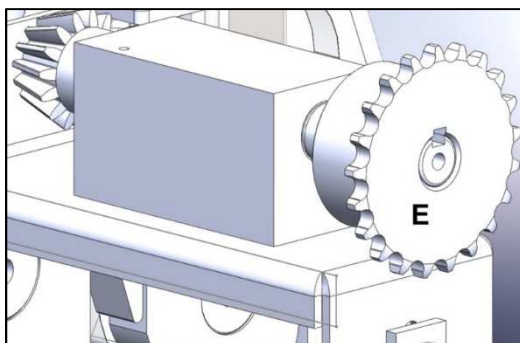
## **IMPORTANT!!**

23. To be able to adjust the mechanism, you must proceed as follows:

- Turn the pulley (Ref. 210408) until the connecting rod (Ref. 210411) (Part C) and the lower pinion keyway (Ref. 210305) (Part D) are completely vertical.

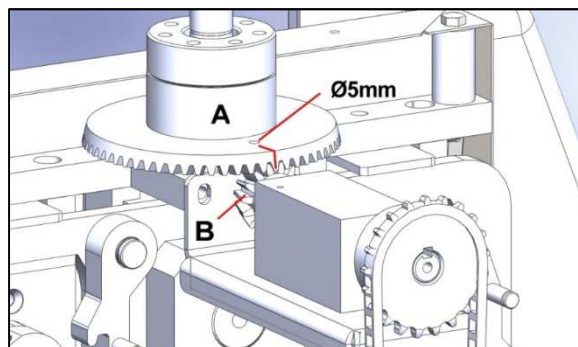


- Place the upper pinion (Ref. 210307) (Part E) with the keyway completely vertical.



- Assemble the crown (Ref. 210309) (Part A) with the tooth matching the  $\varnothing 5\text{mm}$  hole into the cone-shape pinion gap (Ref. 210308) (Part B). Check that keyways of parts D and E are completely vertical. Place the E-471-E-20 ring on the hopper shaft to avoid the crown moving vertically.

Important. The 3 marks line up every 7 cycles.



- Assemble and stretch the chain.



## **7.- PUSHING PLATE ADJUSTMENT** (10 min)

With the machine opened, take the stainless-steel slide cover off by removing the 6 screws that fasten it as shown in left picture. Make sure the pushing plate is in horizontal position and check the screws shown in right picture. In case they were loose, put the fixing stud in and tighten the screws.



## **8.- REPLACEMENT OF CUP SHAFT FIXING RING** (5 min)

To be able to access the I-471-E28 ring disassemble the front of the machine following the instructions in step #2. Once the front has been removed you will be able to access the cup shaft to put the ring with the help of some pliers as shown in the picture. The ring must fit properly into the axis slot. Check it is correctly fastened by trying to move the cup shaft towards the inside of the machine.

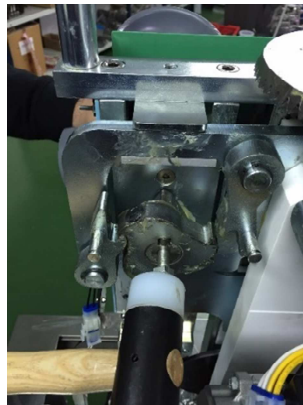


## **9.- REPLACEMENT OF CUP SHAFT** (10 min)

For remove a cup shaft, you must remove the stainless-steel plate covering the slides as previously explained.

Release the wedge spring and disengage wedges.

With the connecting rod in vertical position, release the screw that fastens the axis to the ratchet.



Put in the new axis having greased previously the surface inside the slide. Put the keyway between the axis and the ratchet and affix them using the screw and washer previously removed. Make sure the screw is properly tightened.

Assemble the spring between the wedges.

Turn the motor pulley to allow the connecting rod to go down and make sure the wedge engages the ratchet properly.

## **10.- BEARING BALL REPLACEMENT** (10 min)



For replace the copier bearing proceed following steps showed on pictures below, since it is not necessary to disassemble the gear box for replace it. Firstly, loose the screw which holds the rod to the pin and then both countersunk Allen screws. (Spotted in red)



Once the screws were loosened, use a nylon hammer and a crowbar to pull out the pushing plate pin to let the rod free and then disassemble it.



When removed the pin, the connecting rod will be free on the upper side of it, then turn the gear box clockwise until you have free access to get to the lower bearing and proceed to its substitution and reassemble it.

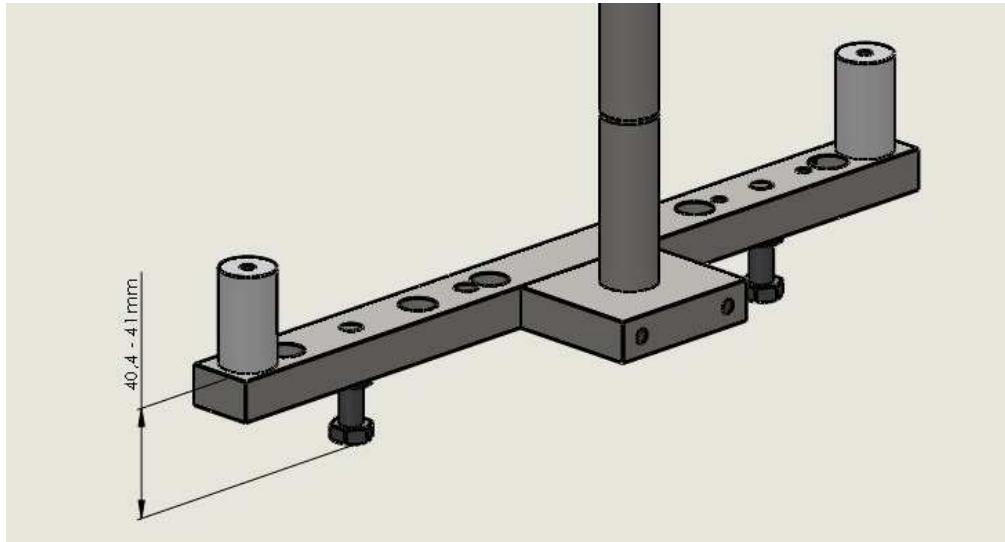


Take off the axis with the bearing from the inner side of the machine. Remove the security ring I-471-E12 and take off the bearing (ROD. 6201ZZ) from the axis (210414). Place a new bearing and affix it with the safety ring. Insert it back in the slide from the inside of the machine towards the outside. Affix the ball bearing axis (210414) in the blade slide (210412) using 1 "T-9021-M8" washer + 1 "T-933-M8x20 mm screw, using fixing stud. To make sure it is tightened, use a 10-mm key on the edge of the ball bearing axis.



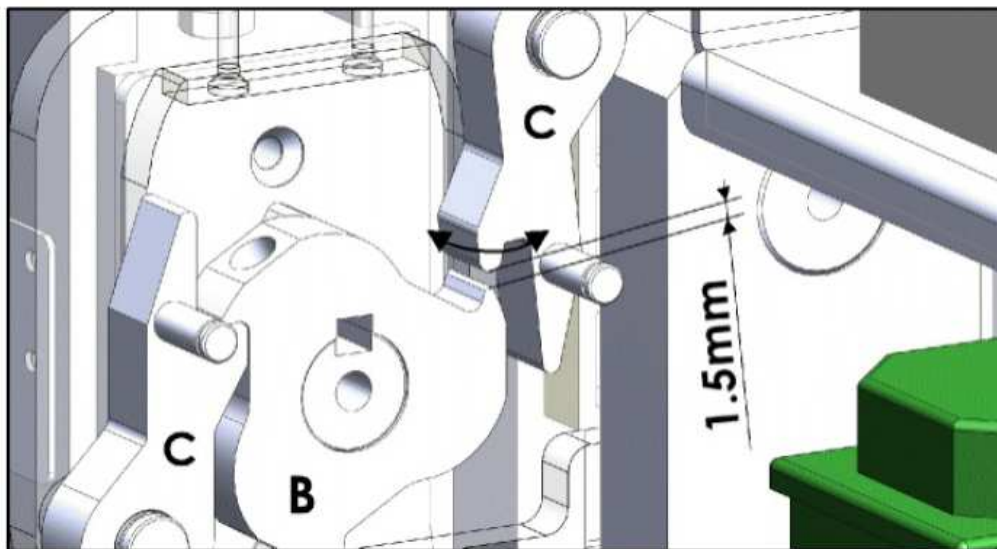
## **11.- MACHINE SETUP LEVELS**

The maximum height the cup sliders must reach is given by the screw affixed to the chassis as shown in the picture below.



*The measure for make the default setting of the chassis closing must be around 40,4 to 41 mm.*

Once this measure has been set, with the connecting rod at its upper vertical position, check if there is minimum distance between the wedge and the ratchet of at least 1,5 mm to avoid a collision against each other and there will be enough space in between to ensure a safe fit.





12.1 In the event of the need to change the machine wiring follow this color code when connect the magnetic sensors.

- Squeezing tray sensor: couple of yellow wires
- Self-service tap sensor: couple of black wires
- Left bin sensor: couple of blue wires
- Right bin sensor: couple of Brown wires
- Counter sensor: couple of White wires

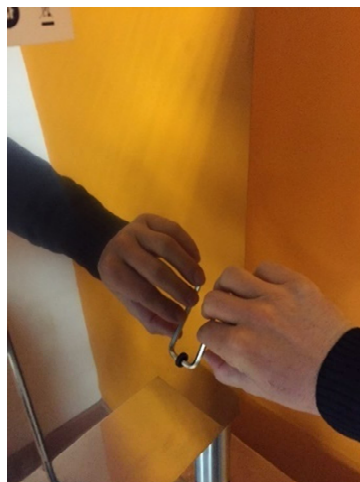
The upper sensor wires (front cover, left side cover, right side cover and hopper basket) are wired on the interconnection of the hopper track.

## **13.- FEEDER SYNCHRONISATION CHECKING**

If the machine feeds the fruits out of time, this can be owing to the feeder being out of synchronization, an improper use of both, lower and upper fruit classifiers for the fruit size being used, or any damage on the fruit classifiers.

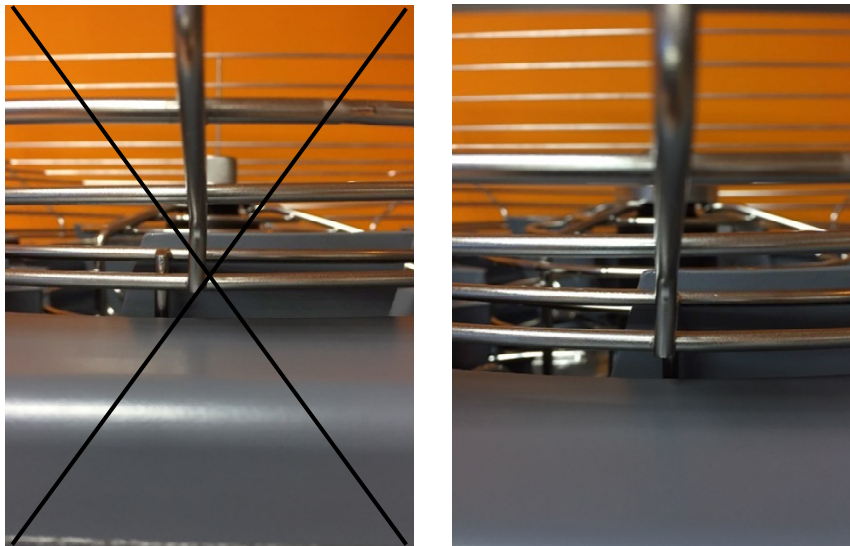
You can easily see if the synchronization is being properly or not only following next instructions:

- Take the Allen key out of the machine bottom (right side) and introduce it on the hole placed on the right side of the machine. Then turn it clockwise.





By turning the key, achieve that the inner basket rotates until both; central rod of outer basket and one of the rods that fasten the feeder sectors are aligned on the same plane, as shown in the following picture on the right side.



When basket is like show in left picture above, cups must remain vertical and facing up as shown in picture below.



If this is not the case, disassemble the machine following the instructions in step 2 and adjust the feeder operation, following the instructions in section 4, 3.

If cups were properly placed, check condition and position of fruit classifiers.

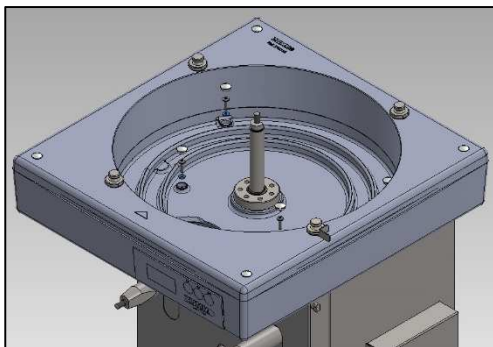


## **12.- MACHINE CLOSING** (18 min)

1. Assemble the body subset again. Placing the tab inside the front. Connect ground wires, power wires to the main switch and the fan wires. Fasten the body by using two Hexagonal head screws “DIN-933-M6x10 mm”.



2. Assemble the whole hopper track considering that the plugs to the electronic box are properly plugged.



3. Assemble the Hopper track top and all the sides (having special care not to smash the wires from the box). Then screw the four cross countersunk head screws with the rubber washer and then cover with the grey cups.



4. Assemble the complete internal basket (210330). The internal classifier (210322) will fit in the hole depending on the fruit size you are planning to use. Then put the appropriate external classifier (210319) for the fruit size.
5. In case the legs had previously been removed, assemble the legs to the chassis. The front legs must have the support washers (210213) and will be adjusted to a height of 140mm, whereas the rear ones do not bear any washer and will be adjusted to 142mm.
6. Assemble the basket (210352).
7. Assemble all the squeezing system and coverings.
8. Plug the machine using the power cable and test it non-stop for 30 minutes. In addition to that, also verify the parts on boxes B or D accordingly.

