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Service Instruction PRIMUS

Code No. : **H951 525823**

Date : Nov. 2007

Subject : Instructions for improved functionality of the doorlock

Valid for : **Freestanding washer extractors 16 – 22kg / 35 – 50lb**

16kg – 35lb from serial No. “01665”
22kg – 50lb all
MFS35xxFTS : all
MFS50PNFVS : all

Warning :

- Disconnect electrical power before doing any servicing.
- Installation, maintenance and service can only be performed by skilled service personnel.
- Replace parts only with original parts.
- After servicing replace and secure all panels as factory installed.

Chapter 1: General

1) If there are some issues with correct functionality of the concerned machines due to the door and doorlock related issues, an amount of things has to be verified and changed where necessary.

2) Related symptoms can be:
   - Machine doesn’t start due to doorlock doesn’t lock.
   - At the end the door of the machine can not been opened
   - There is door gasket leak
   - Door handle pressure is too high
   - Breaking door latch holder with pin

3) To handle these issues we need to verify the following items with the linked actions:

   Chapter 1 : Doorlock execution

   Chapter 2 : Centering door against doorlock and tub rim

   Chapter 3 : Door gasket pressure

   Chapter 8 : Handle force

   Chapter 9 : Software upgrade

4) Execute the steps of the procedure in sequence to become a good result.

5) WARNING: If there is any damage or/and improper function in the door lock system and/or door latch system, the machine has to be put out of order until the faulty parts are replaced by new original parts.

Chapter 1 Verification Doorlock situation

6) Due to the doorlock is mounted on the moving tub-drum assembly, some wear can appear.
It is necessary to clean out this wear particles completely from all moving parts for good function.

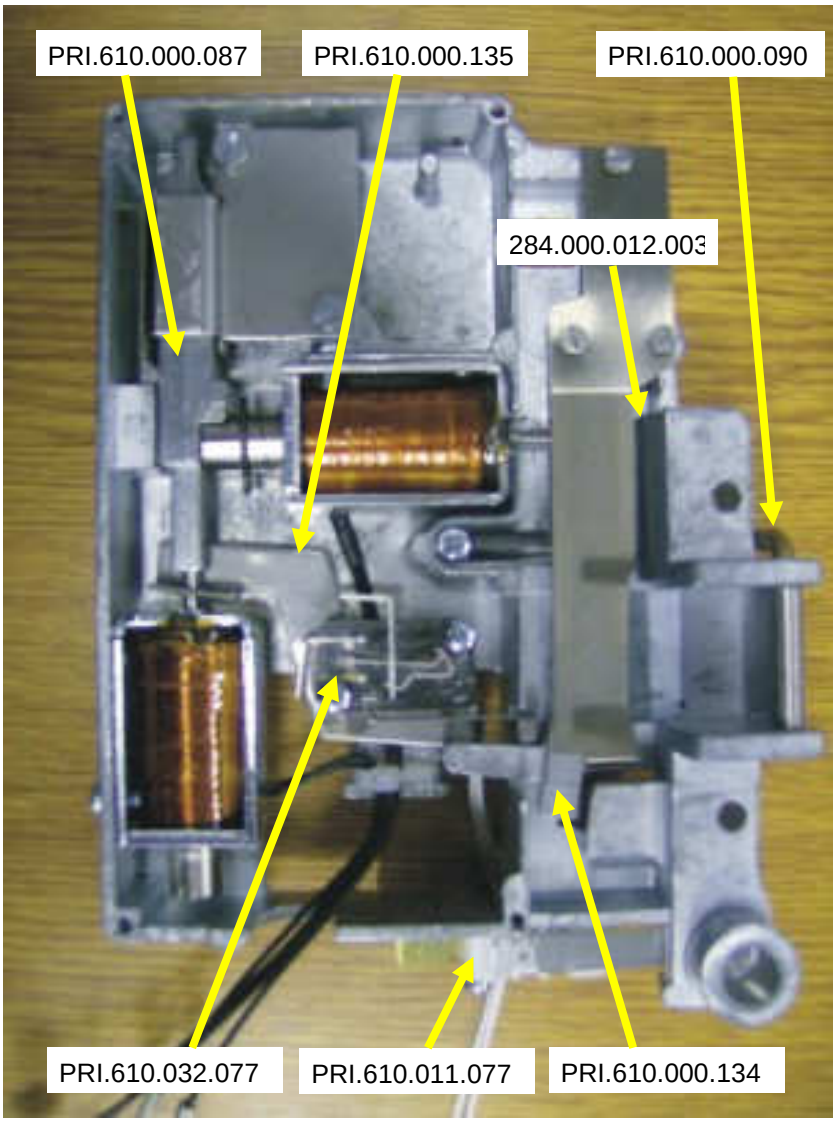
7) Verify the coil blocking part# PRI.610.000.087, it should be free of wear signs. If necessary replace with new original part.
This part should be also easy sliding in his stainless steel holders without friction. If friction exist remove the cause of it.

8) Verify if the emergency lever part# PRI.610.000.135 doesn't interfere with the core of the unlocking (vertical) coil. If interference exist remove the cause.

9) Verify the locking part# PRI.610.000.134. It should be free of wear signs. Especial verify the straightness of the long edge. If any bending is present replace with new original part.

10) Verify if the brass lock spindle part# PRI.610.000.090 isn't worn. If necessary replace with new original part. For greasing do not use grease only a silicone spray.

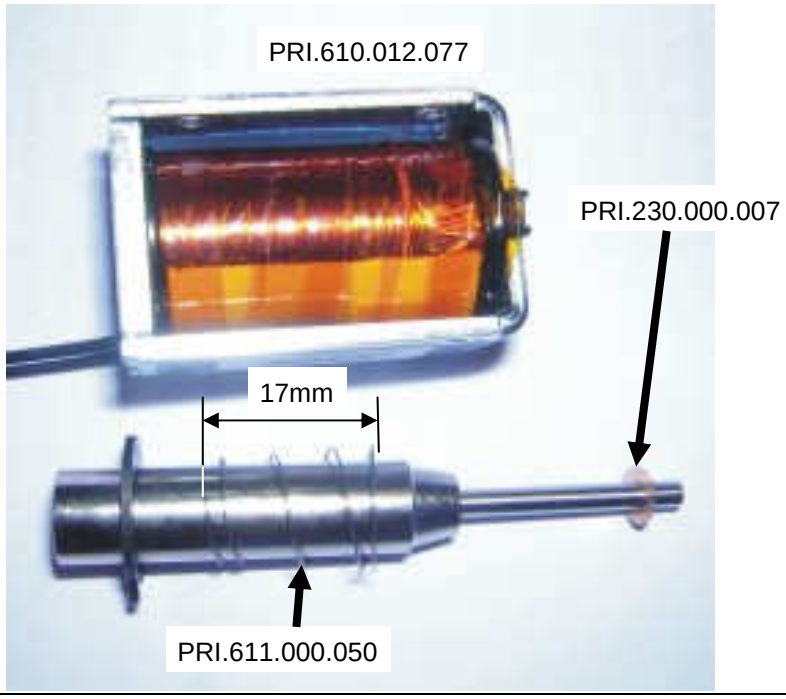
11) Verify if the locking microswitch part# PRI.610.032.077 is a black case with a transparent cover. If not replace the micro switch with new original part PRI.610.032.077.



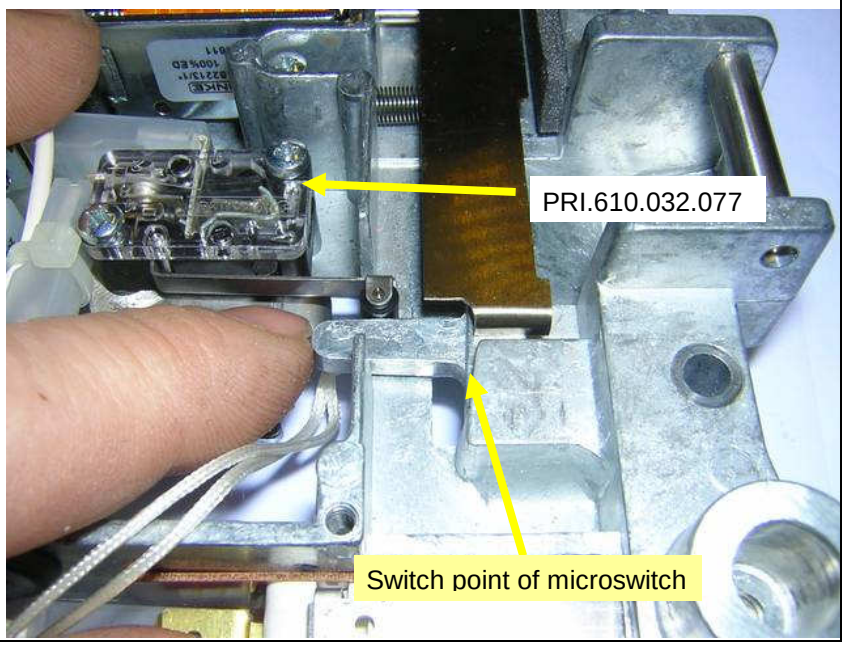
12) Verify if rubber jerk block part# 284.000.012.003 is present and on the right position fixed. If not replace with new original part and fix it on the correct position like indicated on the picture.

13) When cleaning the core and armature of the coils part# PRI.610.012.077, watch out that the very small brass washer are not get lost.
This tinny brass washer is necessary in both coils part PRI610.012.077 for good functionality.

14) Verify if the coil spring part# PRI.611.000.050 has a height of approximately 17mm in free state. If less replace with new original part.



15) Verify if the changeover of the lock microswitch part# PRI.610.032.077 happens if the locking part is moved-located under the cover of the doorlock ground plate. If not, adjust the microswitch position until it is the case.



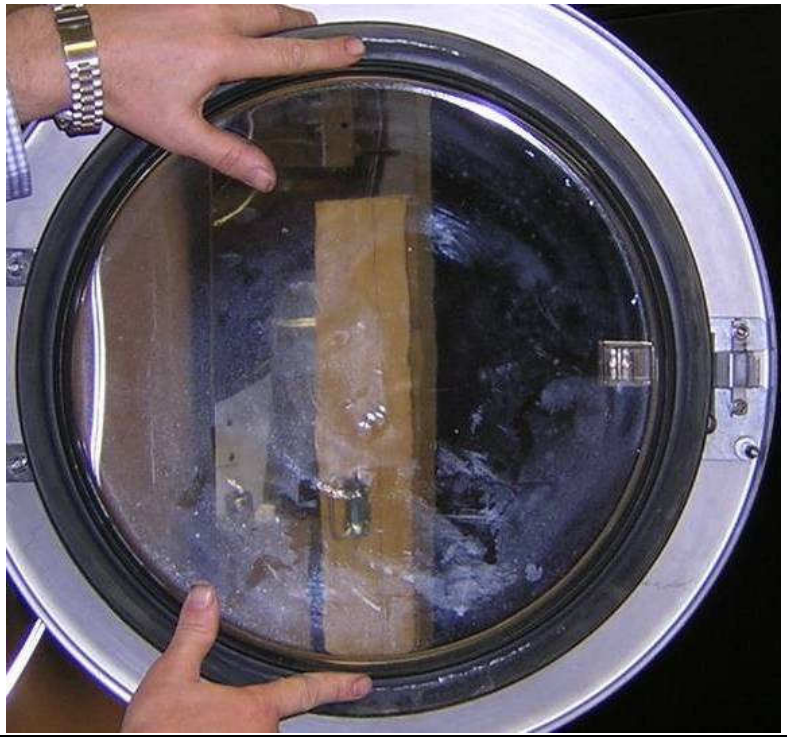
Chapter 2 : Verification of door centering

Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

16) Verify that the tub rim presses on the door gasket rubber evenly (concentric). This is visible by looking at the door gasket when the door is open.

To verify this: clean the door gasket, tub rim and dry them if necessary.
For a visible aid, add a little bit of chalk to the tub rim, on top and bottom. Then close the door and open it again.

Verify the distance of the pressure points from the raised area of the door glass if the distance is different on top against the bottom.
In case not equal, move the door at hinge side, upwards or downwards by moving the hinge.

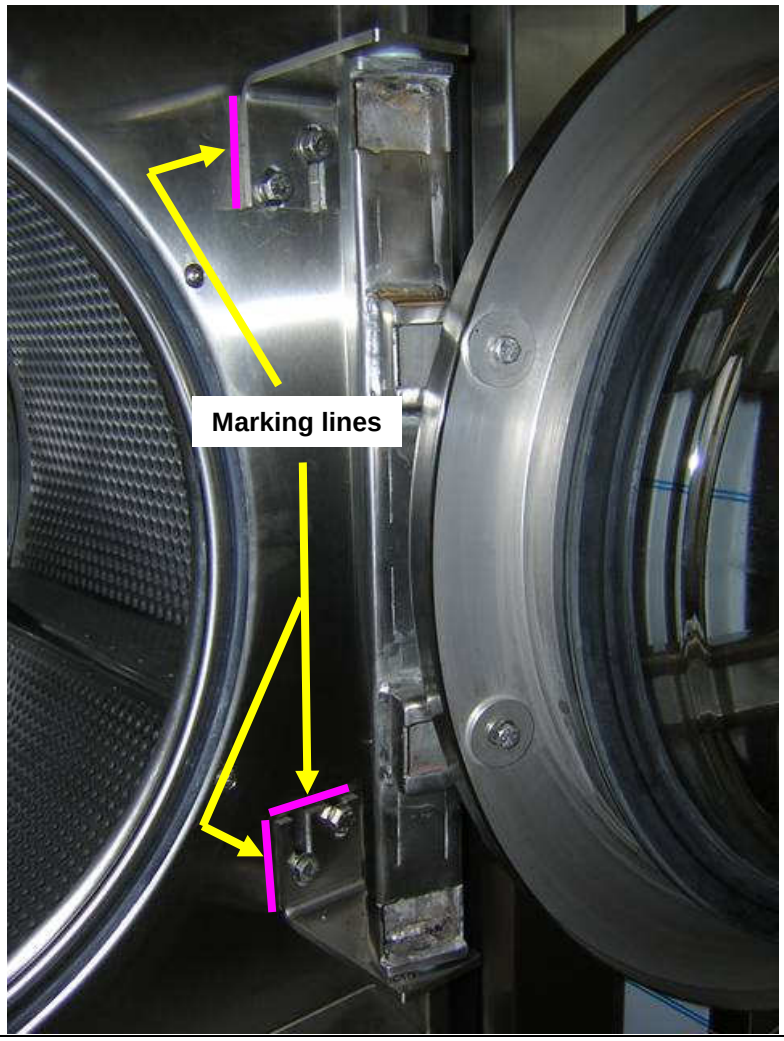


17) Use the lower hinge as reference and does it in small step, ± 1mm. During adjusting the hinge position, take also care for the centering of the door pin against the doorlock.

If big horizontal movement is necessary to adjust the door pin against doorlock hole, slightly release the 4 x M6 bolts that holds to door against the horizontal bars of the hinge and move in small steps so that position in item #18 is achieved.

Ones the hinge is in correct position make markings for later reference.

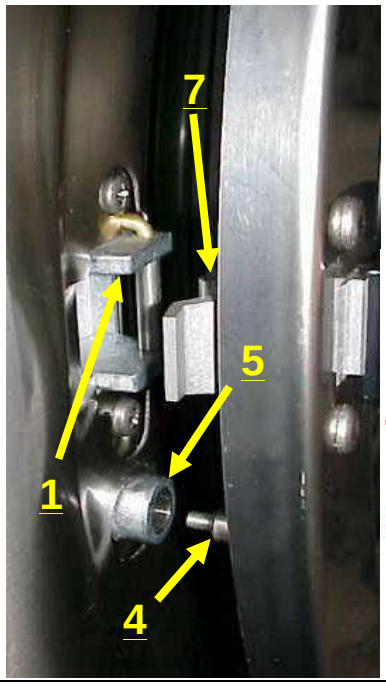
The next item explain the correct position of the door pin against the doorlock hole

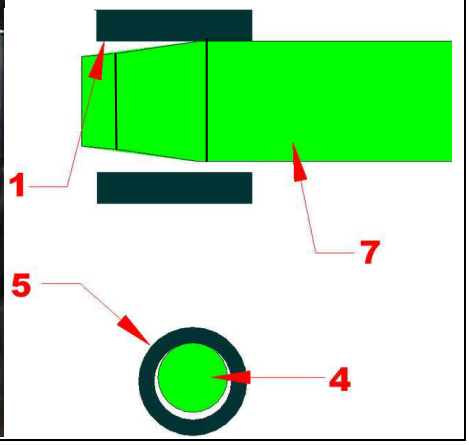


18) Adjust the door position at the hinge in such a way that the door pin “4” fits in the doorlock hole “5” without interference.

It is the intention to have the door pin at the top side of the doorlock hole. This can also be verified by the top surface of the door latch “7” that just touch the upper doorlock guide “1”.

Please pay particular attention to this adjustment. Failure to get the door correctly adjusted will result in possible leaking, damage of components, difficult closing the door and generating errors in the washer controls.



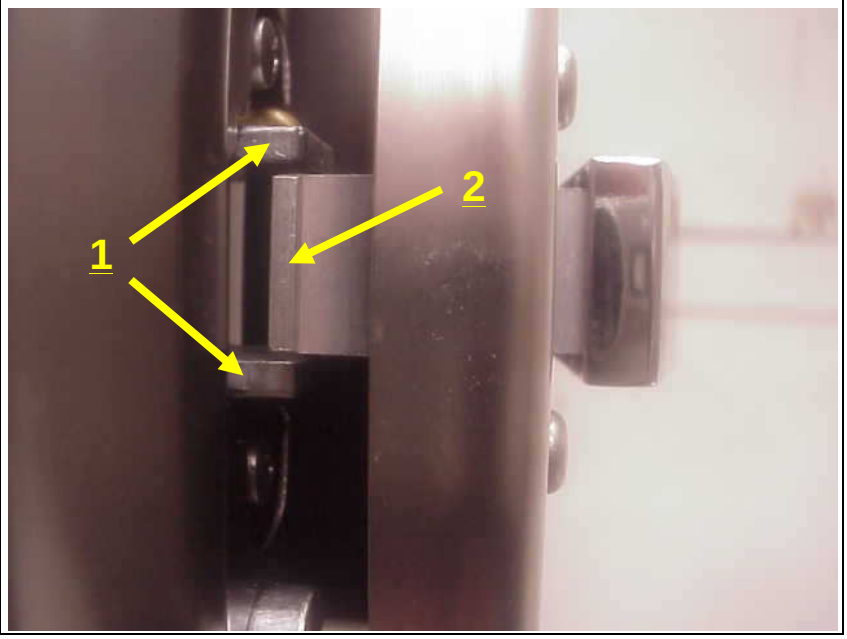


Chapter 3 : Verification of door gasket pressure

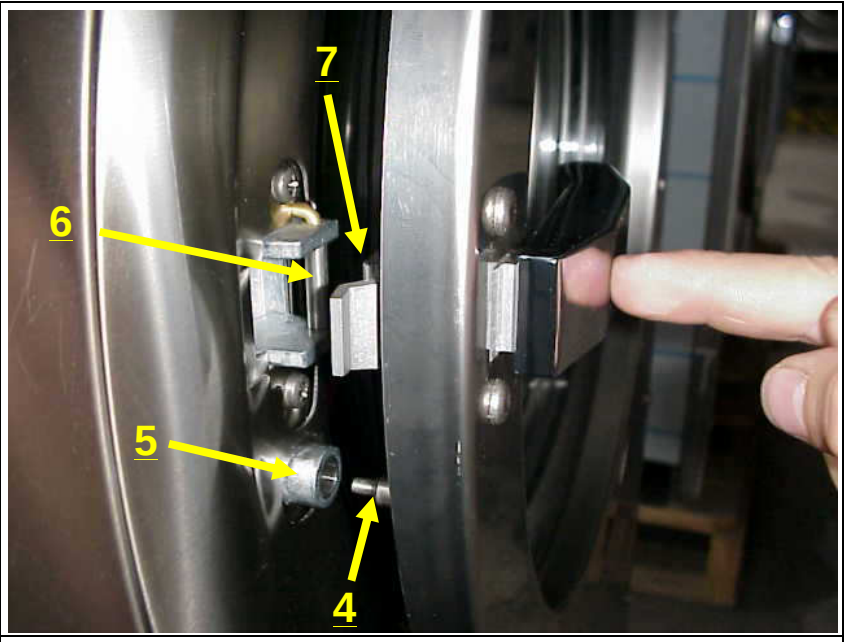
First it must be determined what the door gasket pressure is:
- Normal door gasket pressure
- Too high door gasket pressure
- Not enough door gasket pressure

Carefully follow this procedure, step by step, to obtain good results.

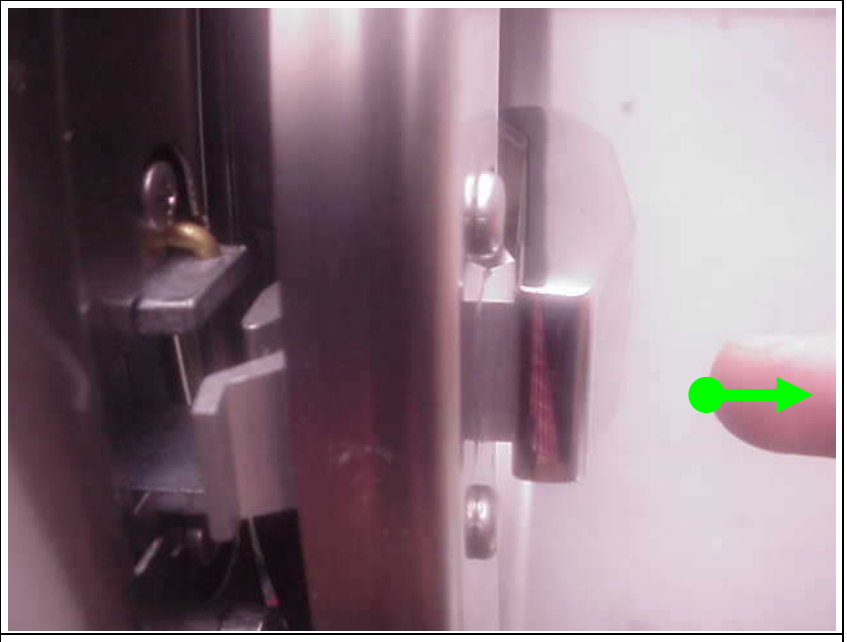
Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

19) Close the handle while the door is in an open position.	
20) Check to see if any frictional contact exists between doorlock guides "1" and door latch "2", between door pin "4" and doorlock hole "5". If it is the case, re-execute the "chapter 2" : Verification of door centering.	

21) Move the door slowly to the closed position with handle closed (see item #19), using one finger, until the bottom of the latch ”7” touches the stainless steel roller “6” of the door lock.



22) Slowly remove any executed force with finger from the door handle.



23) Three situations can appear:

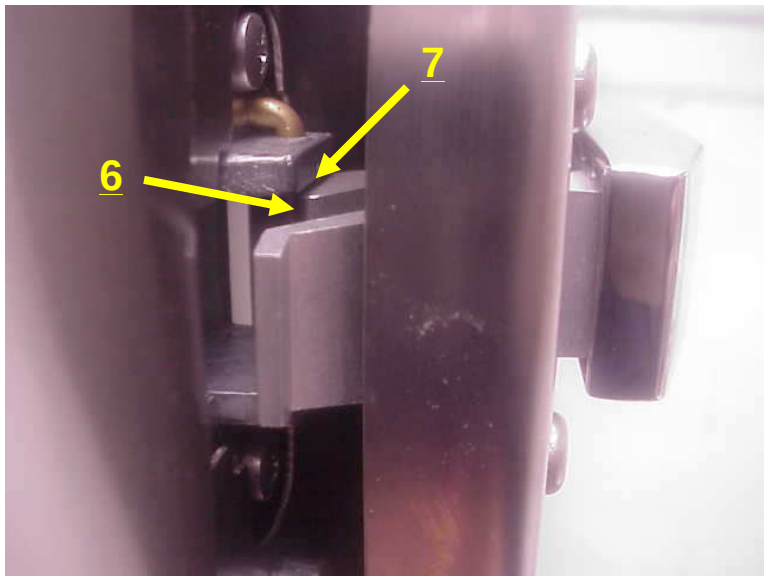
23.a Not enough gasket pressure

Door latch stays against roller

Door isn’t pushed back. Distance between the bottom of the latch ”7” and the stainless steel roller “6” of the doorlock = 0” (0 mm) or less then:

< 10 mm (<0.4”)

Proceed with “Chapter 4”



Situation : Not enough gasket pressure

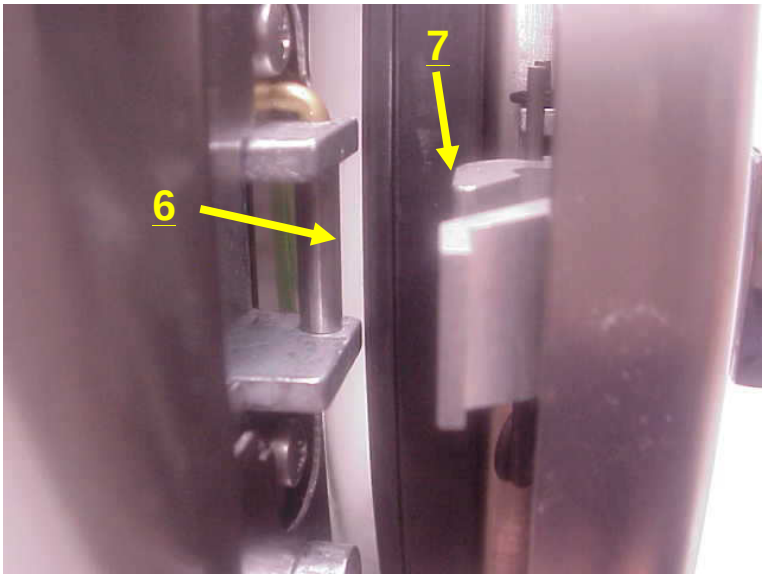
23.b Too high gasket pressure

Door latch is pushed back a lot.

Distance between the bottom of the latch ”7” and the stainless steel roller “6” of the door lock is more then:

> 15 mm (> 0.6”)

Proceed with “Chapter 6”



Situation : Too high gasket pressure

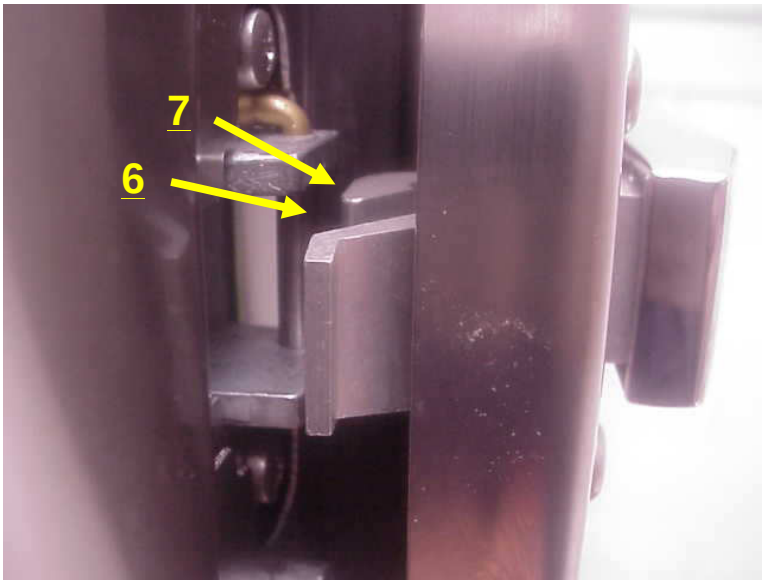
23.c Normal gasket pressure

Door latch is pushed back, the door pressure at hinge side is good

Distance between the bottom of the latch ”7” and the stainless steel roller “6” of the doorlock is :

10 – 15 mm (0.4” - 0.6”)

Proceed with “Chapter 7”



Situation : Normal gasket pressure

Chapter 4 : Adding foam rubber in sealing groove

Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

24) Due to some plastic deformation of the door gasket, some sealing pressure can be lost. Therefore part # 284.000.012.003 : foam rubber strip of 1 m with thickness 3 mm has to be placed in the groove of the door gasket.

Clean the groove in the door gasket and make sure it is dry.

Pull the protection foil off the back of the foam rubber for a distance of 40 to 60 mm. Put the foam rubber into the groove, so it rests on the bottom, starting at the top side of the door and stick it to the side with the door glass.

25) Push the foam rubber to the bottom of the groove, do about 40 to 60 mm at a time and then pull off the protecting foil.

Continue with this procedure until you go completely around the door.

26) As the circumference is nearing completion, measure the correct length of foam rubber that is needed.
Do this accurately, because the foam rubber cannot be overlapped or it should not be short. The strip has to butt up.

Proceed with “CHAPTER 3”, and re-execute accordingly.
If situation is accordance 23.c “**Normal gasket pressure”,** proceed with **“CHAPTER 7** Door gasket leak testing and finish” .
If still the situation item # 23.a. appears**,** “Not enough gasket pressure”, proceed with **“Chapter 5 :** Not enough door gasket pressure**” .**

Chapter 5 : Not enough door gasket pressure (ref. chapter 3 item # 23.a)

Door isn't pushed back enough. The door pressure at hinge side is too low.
< 10 mm (0.4")

Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

27) The door gasket pressure is too **low** on hinge side. More seal pressure needs to be created.

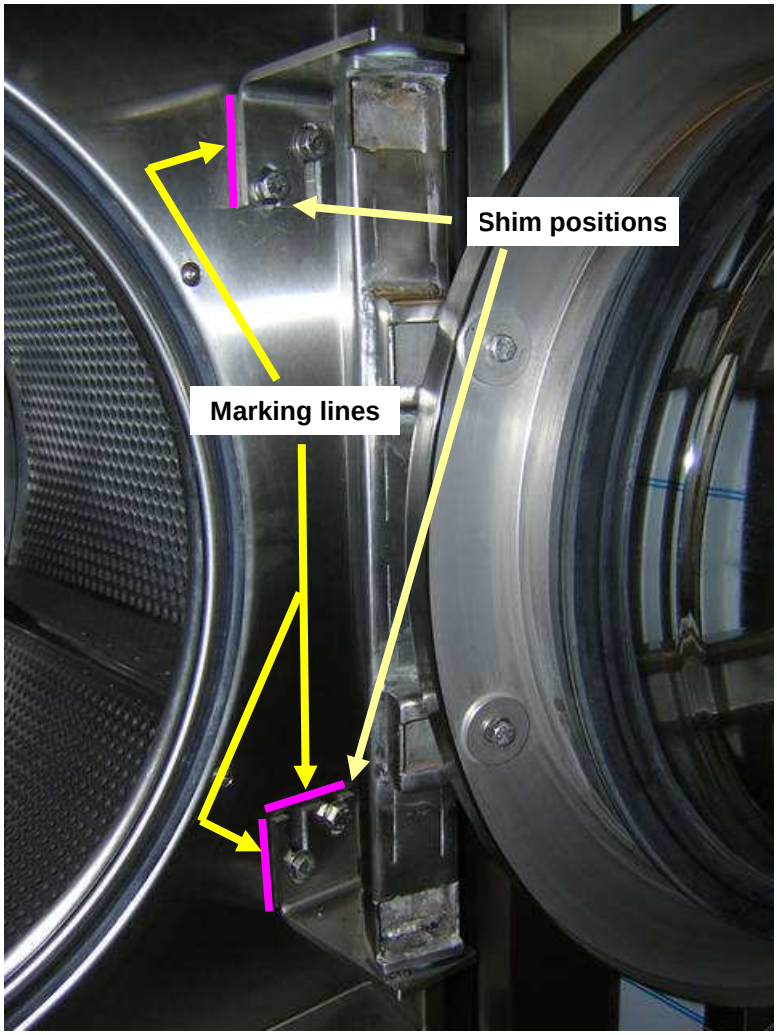
Take care that the hinge position is well marked with respect to the front side, this is needed to be able to put the hinge back in its original position determine in item # 17.

Do one hinge at the time, take care that the door is well supported..

Loosen the 2 bolts of the hinge that holds the hinge to the front side.
Remove 1 **shim** of 1 mm (0.04") that is located between the hinge and the front side.
Warning: Remove always the **same quantity** of shims on both hinges.

Place the hinges back in its original position and tighten the 4 bolts with a max. torque of 16 Nm.

28) Verify the centering again like indicated in "**CHAPTER 2** : verification of door centering" and proceed further with "**CHAPTER 3** : Verification of door gasket pressure" to determine the new situation.



Chapter 6 : Too high gasket pressure (ref. Chapter item # 23.b)

Door is pushed back a lot. The door gasket pressure at hinge side is too high.

> 15 mm (>0.6")

29) Too high gasket pressure.

The high pressure has to be reduced by making distance between tub rim and door gasket bigger. This can be done by adding a shim between the hinge and the front side.

Shim part # 223.100.020.614.

This shim is located between the hinge and the front side.

30) (ref. Chapter 3 item # 23.b)

The door gasket pressure is too **high** on hinge side. Less seal pressure needs to be created.

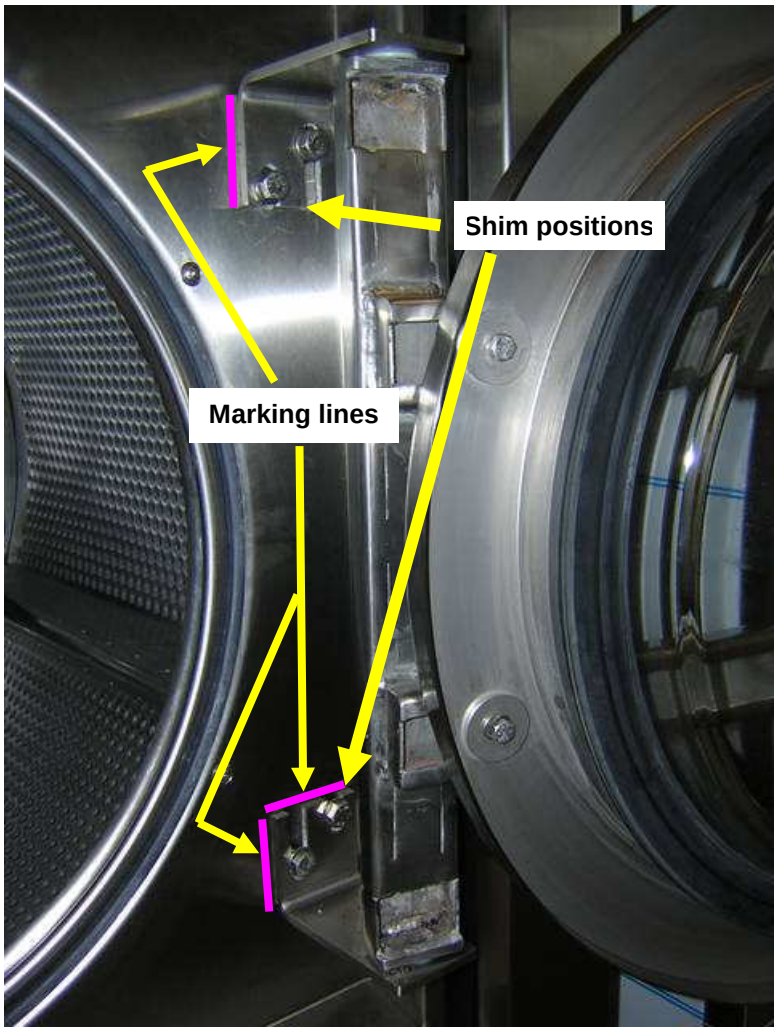
Take care that the hinge position is marked with respect to the front side, this is needed to be able to put the hinge back in its original position determine in item # 17.

Do one hinge at the time, take care that the door is well supported..

Loosen the 2 bolts of the hinge that holds the hinge to the front side.
Add 1 shim part # 223.100.020.614 of 1 mm (0.04") in the location between the hinge and the front side.
Warning: Add always the **same quantity** of shims on both hinges.

Place the hinges back in its original position and tighten the 4 bolts with a max. torque of 16 Nm.

31) Verify the centering again like indicated in "**CHAPTER 2** : verification of door centering" and proceed further with "**CHAPTER 3** : Verification of door gasket pressure" to determine the new situation.



Chapter 7 : Door gasket leak testing and finish (ref. Chapter 3 item # 23.c)

Door is pushed back. The door pressure at hinge side is good

the washer door is adjusted according to this procedure, a water test should be executed.

Therefore, start a standard wash program and accelerate to the rinse cycle.

Watch for leaks to appear between the door gasket and the tub rim.

If any leak should appear, please proceed with "**Chapter 10**" ***FIRST***.

Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

32) If no leak is detected and the door is in the correct position and properly adjusted, firmly tighten the bolts M8 of the hinge with a torque of 18.5 ft. lbs (25Nm). Use a normal screw lock before fastening the bolts M8, for example loctite 222 or similar. To use such Loctite or similar, it is NECESSARY to remove the bolt FIRST before applying the standard screw lock. Then tighten to the correct torque. Do one bolt at the time, so that the door doesn't change position, if necessary support the door. After tightening up with the required torque, again verify the door position. See "Chapter 2"	
33) Proceed further with "**Chapter 8** : Too hard when closing of door handle". If they is no need for executing Chapter 8, please proceed with "**Chapter 9** Software upgrade"	

Chapter 8 : Too hard when closing of door handle

Important: Please do not execute this chapter until after "**Chapter 2 and 7**" are executed.

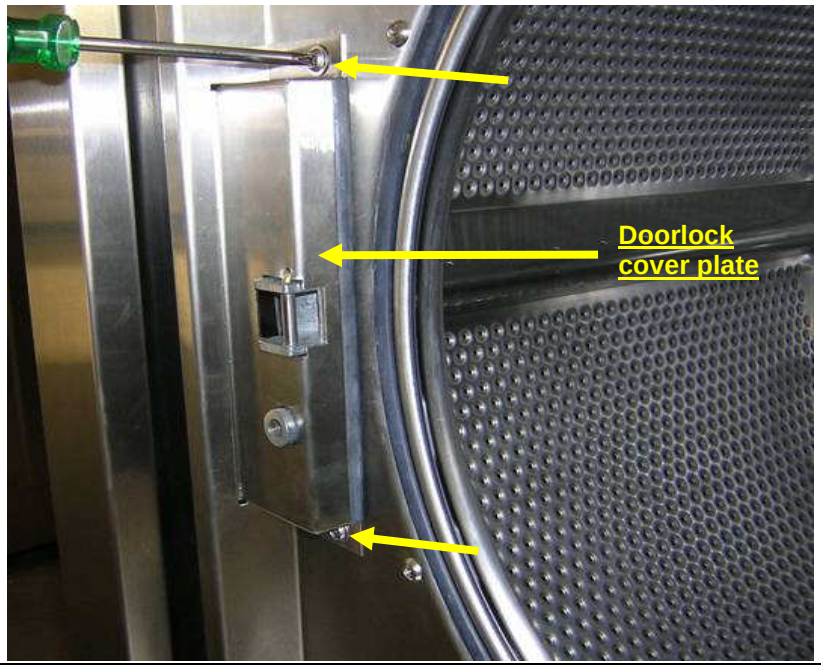
Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

34) Please verify once again that the seal pressure and door adjustment are in accordance with "**Chapter 3" item # 23.c"** situation: "Normal seal pressure".

If the door handle is still too hard to close, remove the doorlock cover plate.

Remove the 2 screws on top and bottom of the doorlock cover plate.

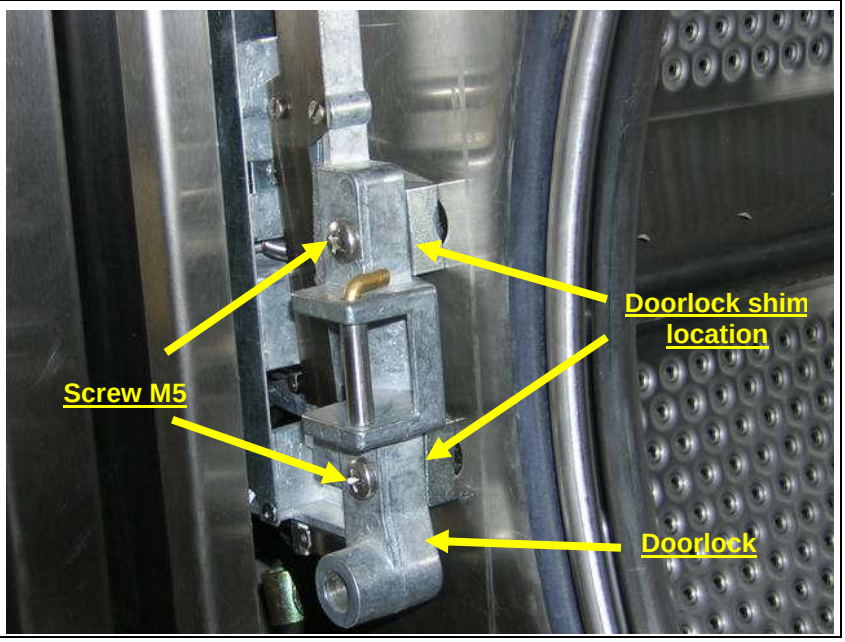
Remove the cover plate by rotating the doorlock cover plate 90° to the left.



35) The high pressure has to be reduced by making distance between tub front and door gasket bigger. This can be done by adding a shim (part # PRI.610.001.122) between the doorlock and fixation point tub side.

36) Loosen the two M5 screws that hold the doorlock on the front side.

Add two small shims (part # PRI.610.001.122), one on top and one on the bottom, between the doorlock and fixation point tub side.
Re-assemble all parts with the 2 screws M5 and verify if the handle pressure is OK.
Add additional small shims (part # PRI.610.001.122) if the door handle force is still too high.
If the force is good, apply Loctite 222 or similar to the M5 screws and fasten very firmly.
After this procedure, please verify the door position is proper. See "**Chapter** 2" and "**Chapter** 3" item # 23.c.

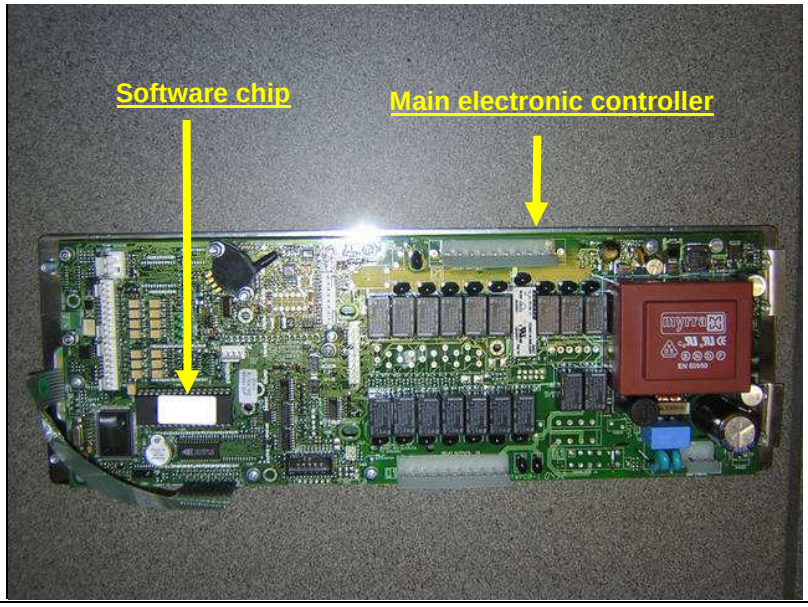


Chapter 9 : Upgrade machine software.

37) On the main electronic controller is a removable electronic chip provided. In that chip is the machine system software loaded.
A possible upgrade version of the software can be available. That can improve the functionality of the doorlock functionality.

38) The software that is running is indicated on the software chip on a adhesive label. On that label is the software number and version mentioned.

39) Each execution of main electronic controller has his software number, and so has to be replaced by the same software number with a indicated software version if the present one is lower.



40) Available Software upgrade versions:

For a MCG FC : software number 663 Version **1.03**

For a MCG AC : software number 641 Version **1.06**

For a MCB FC : software number 535 Version **1.05** (Western languages)
software number 546 Version **1.05** (Eastern languages)

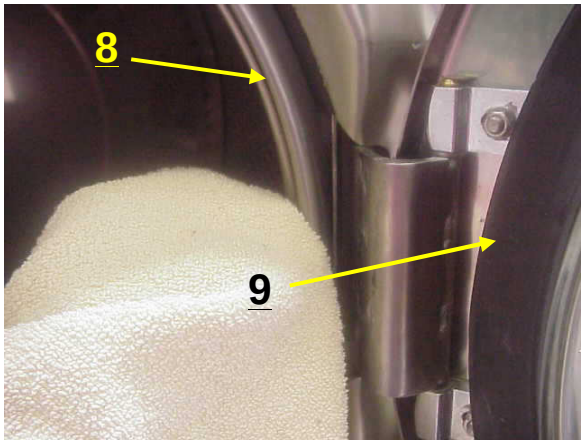
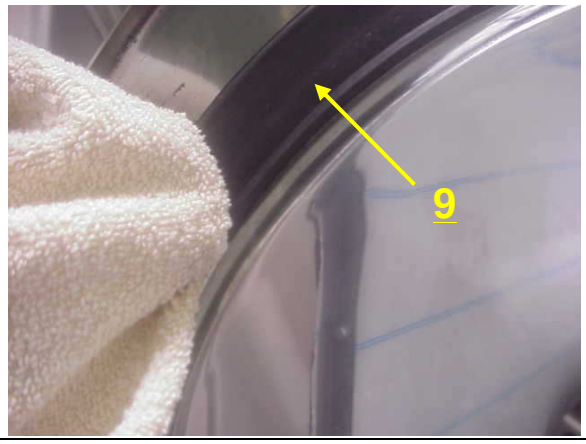
For a MCB EC : software number 524 Version **1.06**

For other software numbers are no upgrades available.

Chapter 10 : Verification sealing area

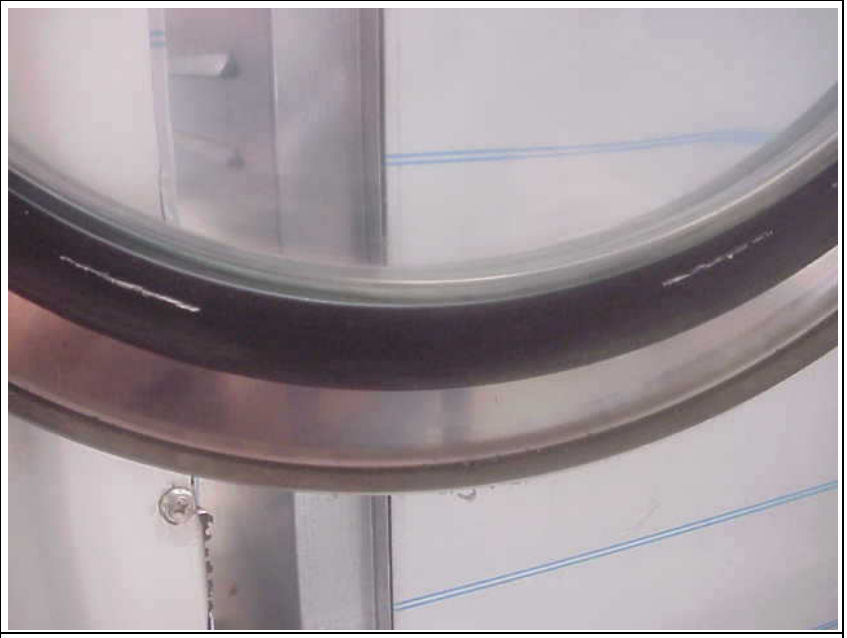
After executing the first half of "**Chapter** 7", and the machine has a door gasket leak, then the door seal pressure must be verified that it is **equal** over the entire sealing area.

Note: Please remark that the door execution shown on the pictures can be differ from the concerned machine. This has no influence on the applicability of this procedure.

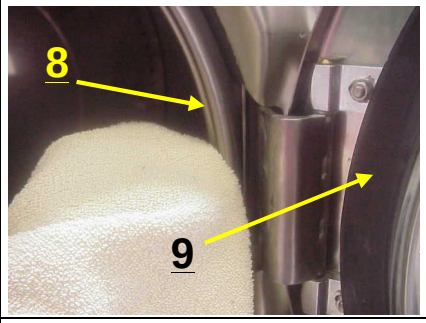
41) Clean and dry tub seal rim "8" and the black rubber door seal "9" with clean dry rag.	 
42) Use a piece of chalk to mark the tub seal rim "8" with a chalk line. Make the chalk lines thin but clear on the tub rim for correct evaluation. Chalk should be placed completely around the rim with a dash line every 1.5". **See picture.** Carefully close the door with the handle locking force, but do not use any additional external force. Wait approximately 3 seconds, then open the door to observe the chalk marks on the black rubber door gasket.	

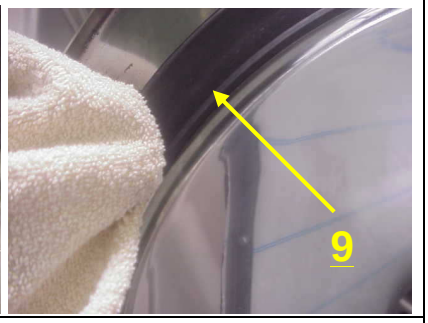
43) **Evaluate** how the chalk markings are transferred to the black rubber door gasket.

If the chalk marking was not transferred over the total seal circle, this shows where there is too little seal pressure.



44) If such a situation is detected, clean the tub seal rim "8" and door rubber seal "9" so that all the chalk is removed using a dry clean rag.
Repeat from item # 44 on, verify that a bad chalk transfer did not occur and the same chalk image appears.

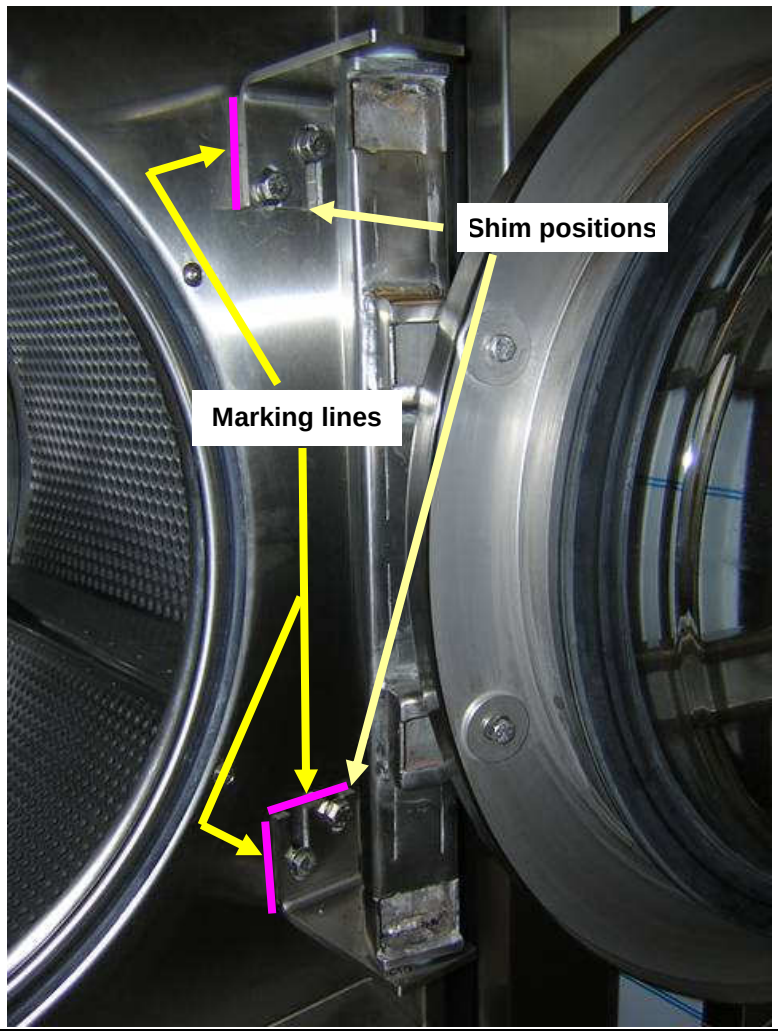




45) If the chalk was not transferred on the bottom, do the following:

Loose the lower hinge and **REMOVE** 1 door shim part # 223.100.020.614 of **1mm** (0.04)" and add this shim at the **TOP** hinge between the hinge and the front side.

If the chalk was not transferred on the top side, do the same thing but remove the shim from the top hinge and add the shim at the **lower** hinge.



46) Repeat from item # 44 on.

Verify that a chalk transfer occurs over the total seal circle.

After tightening up, please verify again the door position. See “Chapter 2” and “Chapter 3” item # 23.c,.

If yes, proceed further with “**Chapter** 7: Door gasket leak testing and finish”.