



# How to repair washing machine whirlpool awg 445/wp 8537 445 03000

How to diagnose problems with the Whirlpool washing machines.

Written By: biopilz



## TOOLS:

- [Soldering Iron](#) (1)
- [Multimeter](#) (1)



## PARTS:

- [triac btb15 600 bce or equivalent, maybe new tl60 thermostat limiter, maybe new coals, maybe new motor mca 52 64-148 ira, maybe controller-chip zilog 2412 eaton cm 20a, maybe new control-unit eaton a1 d20, maybe new washing-machine...](#) (1)

## Step 1 — How to repair washing machine whirlpool awg 445/wp 8537 445 03000



- did destroy mine by turning program-button manually to the end while drum was rotating at full speed 1000/min + well filled...
- effect:
- coming from the motor: crackling sounds and flashes visually reflected by the floor...
- and: !...FROM NOW ON: NO MORE LIVE IN THE DRUM...!


## Step 2



- checked all available online data -not much!-
- best:
- <http://www.zeszyty-naukowe.wso.wroc.pl/f...>

## Step 3



 Disconnect the washer before proceeding.

- get your tool-box: open a line of screws at the right rearside PLUS one at the right frontside hidden under the a broad plastic panel...
- now you can put off the right side cover
- deep down at the rear behind a watershield and an alu-capacitor is the control-unit: eaton a1 d20
- first vacuumclean all inside then open one clip with two fingers and flip the watershield up -out off your way-
- get lamp and find the broad plastic clip to press to get the control-unit loose -way deep down in the rearside-
- fiddle it out
- on the control-unit-plastic: press two clips to separate the pcb from plastic...

## Step 4



- a small metal clip presses the triac btb15 600 bce to the heat sink. open this clip
- use multimeter to check integrity of triac: view from front, left to right reading: read PIN 1 to PIN 2: 1,3 MOhm and PIN 2 to PIN 3: 1,3 MOhm and PIN 1 to PIN 3: 54 Ohm ( PIN 1 and 2 are Anodes and PIN 3 is Gate)
- if strong differences to these values you found the first candidate to replace
- get new triac btb15 600 bce or equivalent -important properties!: 16a, 600v minimum ISOLATED CASE?! CHECK IT!!- eg: tic 246 m , bt139-800 , mac15-4 , t6001d ... desolder original and put out and replace it by new one -equivalents may have different order of pins t1, t2, g -CHECK IT!!!- ... REUSE "WHITE FAT" (heatsinkpaste) AT OLD & PUT IT TO NEW..
- re-attach the metal-clip , put pcb and plastic again and snap in and fiddle it back at its place deep in the machine...
- check machine: plug mains and start a program... if drum turns again you are ready... if not:
- maybe the control-ic on the control-unit is dead, too BUT I FEAR: then we are lost: it is from zilog: zilog 2412 eaton cm 20a -can you find a substitute???
- and maybe the motor got a shot, too... then you had to put out the motor, maybe the commutator got bad: then it needs rearrangement, you need 120 grade sandpaper (...how to do? look for instructions elsewhere)... and/or maybe you just need to replace the coals and put it in place again...

## Step 5



⚠ it turned out: the triac was blown -short circuit- i only got a tic246m, has NO ISOLATED case... - DANGER!! MAINS is on the heat-sink!!! and thus waterdrops around could make troubles: so i recommend go for an isolated case...!! AND: tl 60 thermostat limiter in the motor: in line no 3 & at the lower motor coil (two white cables) was blown, too.

⚠ i decided to leave out "tl 60 (degrees celsius) thermostat limiter" completely because where the washing-machine stands it is quite cool, AND i wont expect too high load on it neither to make the limiter act... though i recommend for you in case it is blown, too: get and mount a substitute!!! ...anyway...

- good luck!

To reassemble your device, follow these instructions in reverse order.