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(54) A washing method for dishwashers

(57) Thanks to the method according to the present invention, the standard washing operations implemented in dishwashers are changed by making use of the prewash button. In this method used for improving the machine's washing performance, when the user depresses the prewash button on the machine, the control unit of the machine rearranges each washing program selected by the user. Such rearranged washing programs are the changed forms of standard programs which are applicable while the prewash button is not depressed. The washing steps of the novel washing programs perform the washing operations at higher temperatures and for longer period of times as compared to those of the washing steps of standard programs.

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Description

Technical Field

[0001] The present invention relates to a washing method performed by a dishwasher when a separate prewash operation is selected for the washing programs implemented on dishwashers.

Prior Art

[0002] As known, during a normal wash operation in dishwashers, the dishes contained in the machine are washed for a determined period of time under a determined temperature, depending on the program selected by the respective user. However in circumstances, when the dirt accumulated on dishes is too dense or if such dishes are left for relatively longer periods of time in the machine prior to washing, the user may depress a prewash button on the machine and conduct a prewash operation before the selected washing program starts operating. Prewash steps are such operations which enhance the cleaning performance of dishwashers.

[0003] With respect to the relevant prior art, depressing the prewash button on a dishwasher causes the machine only to add an additional washing step -to be conducted for a determined period of time under a determined temperature- to the beginning of a selected washing program, and does not make any change on such selected washing program itself to take place following said prewash step.

[0004] There are also made various works in the prior art for improving the washing performance. For instance, in the published patent application EP0291713, hot water steam is sprayed onto the dishes in some steps for enhancing the washing performance. As for the application EP0852929, there disclosed a dishwasher in which the washing steps are determined according to a measurement conducted by a dirt sensor. With respect to the application EP0553803, there is disclosed a prewash operation composed of two steps for enhancing the washing performance.

Brief Description of Invention

[0005] According to the method of the present invention, if the prewash button is depressed in any washing program selected by the user, the machine detects that the washing is to be conducted under relatively denser dirt conditions as compared to a normal washing operation, and changes its algorithm so as to conduct a more intensive washing as compared to a normal washing step.

[0006] When the user depresses the prewash button and sets the machine for a washing operation while the dishes included therein are too dirty, it is hereby detected that the dishes are more dirty as compared to normal conditions, so that the washing operation is conducted in a more intensive manner than the normal standards or than that of the washing programs set up in the machine, resulting in a more efficient washing performance. This actually means that, once the prewash button is depressed in the machine, extra novel programs are provided in addition to those programs already run on the machine. Thanks to this novel program obtained as a result of depressing the prewash button by the user, it is assumed that the dishes placed in the machine are relatively dirtier, so that the washing programs already set on the machine are run for longer periods of time than their normal length under relatively higher temperatures. With the subject method, the flow of all washing algorithms in the machine is changed.

Objective of Invention

[0007] The objective of the present invention is to enhance the washing performance with the prewash step implemented in dishwashers.

[0008] Another objective of the present invention is to implement the washing steps by changing the features of already-installed washing programs in dishwashers when the prewash step is selected.

[0009] A further objective of the present invention is to implement the washing operations for longer periods and under higher temperatures than that of already-installed washing programs in dishwashers when the prewash step is selected.

[0010] Yet a further objective of the present invention is to make applicable the washing method according to the present invention in all currently-used dishwashers, without changing their structure.

[0011] Still a further objective of the present invention is to run the dishwashers by means of an easily-implemented, inexpensive, and reliable washing method.

Description of Invention

[0012] As known, the washing steps of dishwashers are implemented by the control unit of the dishwashers. The selection of such washing steps are realized by means of selection buttons provided on the machine. The washing steps are run according to the user selections and the control unit provides the machine's operation as required by the programs installed on it.

[0013] There is provided a separate washing method for each program. Such programs of dishwashers comprise the steps such as prewash, main wash, rinse, hot rinse, etc. Various washing parameters such as the water temperature, washing time, and the rinsing and drying times do vary according to such washing programs.

[0014] The present invention makes use of the prewash button provided in many dishwashers already in use for enhancing the washing performance. The method according to the present invention changes the aforesaid standard washing operations for this purpose and enhances the machine's washing performance. According-

ly, when the user depresses the prewash button on the machine, the control unit of the machine rearranges each washing program selected by the user. Such rearranged washing programs are the changed forms of standard programs which are applicable while the prewash button is not depressed.

[0015] The washing steps of the novel washing programs perform the washing operations at higher temperatures and for longer period of times as compared to those of the washing steps of standard programs. According to the selection of the relevant program, the temperature of at least one of the steps of prewash, main wash, rinse, and hot rinse can be increased and the time values can be lengthened. Additionally, if no prewash step is available in a washing program, this step can be implemented so as to become the first step of the novel program.

[0016] Thus, thanks to the present invention, each washing program is provided with an extra-intensive washing feature, and the number of washing programs can be increased according to the machine's model.

Claims

1. A washing method of dishwashers, **characterized in that** once the prewash button on such dishwasher is depressed, the washing operation in at least one of the steps of a selected washing program is conducted for a longer period of time and under a higher temperature, as compared to the case when the prewash button is not depressed.

2. A method according to Claim 1, **characterized in that** if no prewash step is available in a selected program, this program starts with a prewash step.

3. A method according to Claim 1, **characterized in that** the step of said selected program is a prewash step.

4. A method according to Claim 1, **characterized in that** the step of said selected program is a main wash step.

5. A method according to Claim 1, **characterized in that** the step of said selected program is a rinse step.

6. A method according to Claim 1, **characterized in that** the step of said selected program is a hot rinse step.

7. A dishwasher according to any of the preceding claims.

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EUROPEAN SEARCH REPORT

Application Number
EP 08 16 7331

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	DE 10 2005 061807 A1 (BSH BOSCH SIEMENS HAUSGERAETE [DE]) 28 June 2007 (2007-06-28) * the whole document *	1-7	
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A	EP 1 362 547 A (ELECTROLUX HOME PROD CORP [BE]) 19 November 2003 (2003-11-19) * paragraph [0022] - paragraph [0023] *	1-7	

TECHNICAL FIELDS SEARCHED (IPC)

A47L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 March 2009	Hannam, Martin

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 16 7331

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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- EP 0553803 A **[0004]**