

SB, Auto Mower, Solar Mower, Control boxes and software versions, 2001-03

1 Control box overview

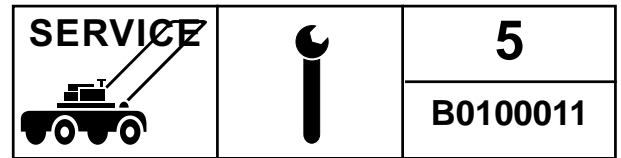
The control boxes of models 1998 and 1999 are equipped with a microprocessor which can not be reprogrammed. The model 2000 control box can be reprogrammed with software releases 3.x. The control box model 2001 can be reprogrammed with software releases 5.x.

Important! Software releases 5.x cannot be used when programming a model 2000 control box. Attempting so will lock the software and it can only be unlocked by Husqvarna Sweden.

Table 1.

Control box part number	Description	Software version (see section 3)	Latest available software release at the release of this document
535 06 30-01	For SM98	SM98_02	Not reprogrammable
535 06 34-01	For AM98	AM98_02	Not reprogrammable
535 08 00-01	For SM99	SM99_02	Not reprogrammable
535 08 00-02	¹⁾	SME 3.x	3.9
535 08 01-01	For AM99	AM99_02	Not reprogrammable
535 08 01-02	²⁾	AME 3.x	3.9
535 08 82-01	For AM2000	AM2 3.x	3.9
535 08 82-02	³⁾	AME 3.x	3.9
535 08 85-01	For SM2000	SM2 3.x	3.9
535 08 85-02	⁴⁾	SME 3.x	3.9
535 09 55-01	For SM2001	SM3 5.x	5.2
535 09 56-01	For AM2001	AM3 5.x	5.2

- 1) This is a refurbished 535 08 00-01 control box with a model 2000 microprocessor containing an SME program. It can be reprogrammed with software release 3.x.
- 2) This is a refurbished 535 08 01-01 control box with a model 2000 microprocessor containing an AME program. It can be reprogrammed with software release 3.x.
- 3) This is a 535 08 82-01 control box with an AME software version. It can be reprogrammed with software release 3.x.
- 4) This is a 535 08 85-01 control box with an SME software version. It can be reprogrammed with software release 3.x.



2 Spare part control boxes

From January 2001 only spare part control boxes 535 09 55-01 (SM) and 535 09 56-01 (AM) will be available from Sweden. All previous control box part numbers will be blocked. One of these two types must be used regardless of whether the mower to be repaired is a model 1998, 1999, 2000 or 2001.

The control boxes will be available for the national sales companies only. All shipments of control boxes to dealers will be from the Husqvarna national sales company or distributor.

The control box will be programmed with the latest software release available at the time of production in SM3 and AM3 versions respectively. It is the responsibility of the national sales company to make sure these control boxes are programmed with the latest available software release at the time of shipping to the dealer.

Important!

When upgrading the software in a mower to that of a later model year, a relevant owner's manual must always be given to the consumer.

When a control box has been reprogrammed it must be clearly marked with the relevant program version.

3 Software descriptions

Each software version is identified by a unique designation, for example AM2 3.8. The first part (AM2) defines the microprocessor used and the product type the software is intended for. The second part (3.8) defines the software release.

"2" means a standard 2000 version designed for a model 2000 control box.

"3" means a standard 2001 version designed for a model 2001 control box.

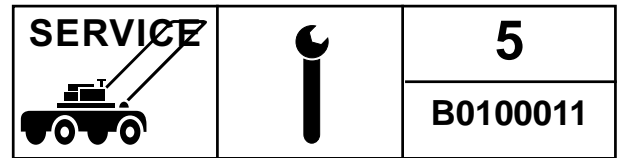
"E" means a version for model 1998 and 1999 mowers (without tilt/lift sensor).

The only difference between the "2" or "3" versions and the "E" version is the tilt sensor feature. Please refer to table 2 below for the consequences of using an incorrect program version.

Table 2.

Product model year	Correct software version (Auto Mower used as example)	Software version programmed by mistake	Consequences of the incorrect program version
1998-1999	AME	AM2 or AM3	Each time the right collision detector is activated the cutting motor will shut down, the mower will reverse, turn, start the cutting motor and drive off normally. From a safety standpoint this behavior causes no hazards.
2000-2001	AM2 (2000) AM3 (2001)	AME	<ol style="list-style-type: none"> 1. The mower is turned upside down while running: The blade disc will keep spinning. 2. The mower is put upside down for service just outside the boundary wire: When the rear cover is closed the blade disc will start to spin. 3. The Mower is put upside down for service inside the boundary wire: Fault message "outside" will be issued. <p>From a safety standpoint the behavior in case 1 and 2 would be potentially hazardous.</p>

As shown in table 1 the model 2001 software versions cannot be used when reprogramming a model 2000 microprocessor. Releases 3.x only can be used.



4 Control program releases 2000

Below follows a description of the software releases issued during model year 2000.

4.1 Release 3.61 (AM, SM)

Original control program release.

4.2 Release 3.63 (AM, SM). Issued 2000-04-11

- Bug fix related to the Battery Test function of the Auto Mower.
- When trying to set the operating timer * 8 # nn # on the Solar Mower, release 3.61 would signal "Wrong entry"
- Bug fix on Quick-set command (* 9 # * code #) bug. With release 3.61 the prompt to enter the code came back after the ON/STOP switch had been operated.

4.3 Release 3.65 (AM, SM). Issued 2000-05-08

- Alarm bug fix. If the duration of the alarm would be extended (* 7 # x # * code #) from the factory setting of 1 minute to a longer time the alarm would be deactivated. It is the same effect as if "x" had been set to 0 (zero). The alarm would then be switched off and the personal code would not need not be entered to operate the machine.
- The AM would with previous releases sometimes not be able to start up the blade disc at low voltage.
- Night mode bug fix. At fault message "Code missing" with the Solar Mower in night mode the fault sounds would hardly be audible. The machine would not enter night mode.

4.4 Release 3.74 (AM, SM). Issued 2000-06-06

- Code validity bug fix. If the validity of the code would be extended (* 6 # x # * code #) from the factory setting of 1 week to a longer time the alarm would be deactivated.

This was the same problem as with command 7 on release 3.63.

- Redesigned square mode cutting (SMC) control. The previous releases made the mower both enter and leave square mode cutting too soon. It often left SMC already after 3 sides of the first square. This led to a reduced area capacity as the mower was often not covering the whole working area.

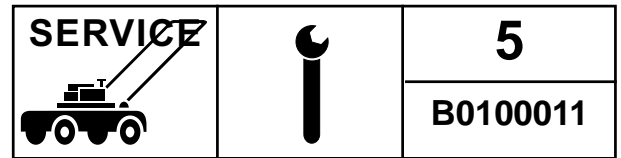
Release 3.74 means that the mower goes in to SMC later but when in SMC it stays there longer. It never leaves SMC before the side of the square is at least 60 cm (24"). It may however stay longer in SMC.

As an extra feature the possibility to set at what level the mower should enter SMC has been added. This is done by entering * 68 # nnn # where nnn is cutting power x 2,5 above average cutting power. The factory setting value is 100.

Example: If the value is changed from 100 to 120 the mower is more reluctant to enter SMC.

Important! The 68 command must be treated with caution. The SMC behavior should not be individually set on the mowers! This feature is intended mainly for the US market where other grass types require a higher value for a good function.

Please note that the value 100 is valid for software releases 3.x only. From releases 5.x the default value is 30.



If customers however seriously complain about the SMC function individual changes may be done. Please note that the 21 command does not reset the value to factory setting. To reset, enter * 68 # 100 #. When a control box has been programmed with the 3.74 software the square mode cutting value must be actively set to 100 (* 68 # 100 #). This can also be done using the Service Program: In release 4 or later, click “factory settings” in the settings window. In release 3.0.6, use the Autotest function. Unclick everything except “factory settings”. If no 68 value is entered the machine will permanently go into SMC!

- Improved functionality when running two machines on one charging station.

This program release must always be installed on machines running with this feature!

- The AM will charge slightly longer when using the 33 command (which also means longer cutting time).
- If an Auto Mower would try to start up a semi-blocked blade motor it would not issue the fault message “blocked blade disc” but continue trying to restart.

4.5 Release 3.75 (SM). Issued 2000-06-13

- Command 68 bug fix for Solar Mower only. With release 3.74 it was not possible to use the 68 command for setting the square mode cutting on the Solar Mower.

4.6 Release 3.80 (AM, SM). Issued 2000-10-06

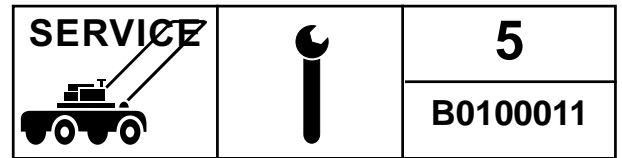
- Redesigned behaviour of the mower when the loop signal is interrupted. Previously a power cut has sometimes led to the mower stopping immediately, signalling “cannot detect loop signal”, which is the correct behaviour, and sometimes reversed a few meters before stopping and signalling “outside”. The later behaviour is no problem in most installations. However if there are parts of the boundary wire facing water in combination with frequent power cuts the risk that a mower will reverse into the water will increase dramatically.

The SM has been more sensitive to this than most AMs because of the SM generator. In the fall, when there is less light available, the power supply from the generator is weaker. This in combination with many generator solar cells not being kept clean and generators not being installed where there is good light conditions has made some SMs go swimming.

The generator will 2001 have an increased charging capacity as well as larger batteries.

In the case of the boundary wire running close to water the owner’s manual instructs that “...the boundary wire should be supplemented by a line of posts, raised edging or a fence...”. In the 2001 manuals, this writing has been changed to “...must be supplemented...”.

- Redesigned AM control on the search loop. There has been observations that a small number of AMs have not turned distinctly when hitting the search loop, but made a banana-shaped movement parallel to the loop and usually finally losing contact with it. The reason for this is a tolerance problem on a component in the control box. If a mower is just on the border of having this problem the variation in humidity may cause it to work some time and fail other times. A failing machine will most likely signal “cannot find CS” as the final fault symptom. It is easy to discover the problem using command 31 and pointing the mower against the search loop. The 3.80 release compensates for the hardware problem.
- “Alarm duration bug fix. If the alarm was extended to two minutes or more, it will be reset to one minute again after a battery reset (poor battery connection, for instance).



English 5 (5)

4.7 Release 3.90 (AM, SM). Issued 2001-02-14

- Bug fix for the tilt/lift sensor function. A mower with release 3.80 will not stop and shut down the blade disc properly when the tilt or lift sensor is activated. If a mower however is turned upside-down inside the working area, the blade disc will be shut down and the mower will issue the fault message “outside”. AME 3.80 and SME 3.80 are not affected as they are intended for mowers without the tilt sensor. Releases prior to 3.80 do not have this bug.
- This release makes the Solar Mower wake up quicker and more distinctly in poor light conditions with a completely discharged battery.