

Inverter Replacement Kit Installation Instruction Manual

Applicable to models:

MS-613 / MG-613 / EM030 / MG030
MS-617 / MG-617 / EM040 / MG040
MS-623 / MG-623 / EM055 / MG055
HS-6013 / EH030
HS-6017 / EH040

SAFETY INSTRUCTIONS



WARNING!

INSPECTION, MAINTENANCE, REPAIR OR MODIFICATION ROUTINES ON GIRBAU EQUIPMENT

- The actions described in these instructions are strictly reserved for contractually **AUTHORIZED TECHNICAL SERVICES (ATS)** and personnel who have successfully completed training by Girbau SA.
- The company responsible for the Authorized Technical Service accepts full liability for the work done and any possible consequences that may derive from it.
- Any actions carried out by personnel who are not authorized by the manufacturer will be considered to be improper and will result in the automatic voiding of the machine's warranty.
- The manufacturer will not accept responsibility for any physical and/or material damage caused by actions performed on the machine undertaken by unauthorized personnel.
- Once the corresponding operation has been performed, the ATS staff must perform the final machine inspection.
- Avoid carrying out any action on the machine without having first read and understood the machine's Installation and Operating Manuals, paying special attention to the Safety Instructions.
- In any action that modifies the values of the machine's specifications plate, it should be borne in mind that:
 - It is the responsibility of the ATS to check that the external installation for the machine has been modified and adapted to the new requirements, particularly to those regarding ducting and electrical protection.
 - It is the responsibility of the ATS to update the specifications plate, in accordance with the new operation conditions, once the final machine inspection has been performed.
- Carrying out inspection routines, adjustments, maintenance, repairs, cleaning or any work on the machines without applying safety measures or having the necessary technical know-how can lead to **ELECTRICAL SHOCK OR SERIOUS ACCIDENTS**.
- When tools designed for specific maintenance and repair routines are available, their use is compulsory in order to avoid unnecessary risks.
- Before carrying out any procedures on machines fitted with pneumatic or hydraulic circuits:
 - Make the machines **COMPLETELY SAFE** by following the instructions set out in the corresponding Manuals or by wedging them with wooden blocks where necessary.
 - Bear in mind that working on a component without having previously understood the role that it performs in the circuit as a whole involves a high risk of suffering a **SERIOUS ACCIDENT**.

- **BEFORE CARRYING OUT ANY** inspection routine, adjustment, maintenance, repairs, cleaning or any work on the machine, **DISCONNECT IT FROM ALL THE ENERGY SOURCES.**
 - **COMPLETELY** disconnect the machine from the power supply and prevent the possibility of accidental reconnection by mechanically locking the automatic external switch and/or the switch breaker. Stopping the machine with the **NORMAL STOP** key or push-button is not enough.
 - Disconnect the electrical connection of any circuit external to the machine; for example external dosing equipment, folders or ironer feeders. These circuits are independent of the supply to the machine.
 - Before beginning any procedure on machines equipped with an inverter or equipment with capacitive loads, wait for at least five minutes (10 minutes on equipment with a power rating greater than 25 kW) after the electrical disconnection, to eliminate risk of residual voltage.
 - Close and mechanically interlock the manual **WATER, GAS, STEAM, THERMAL OIL, COMPRESSED AIR**, etc. supply valves.
 - Check that the water bath has **COMPLETELY** drained, that no part of the machine is at an excessively high temperature and that no parts are in movement through inertia.
- **DANGER!** Some fault localization procedures require checking at different points of the electric circuit with the machine connected to the power supply and other supply sources. When carrying out these procedures, respect the following instructions:
 - The appropriate checks must be carried out by **ONLY ONE PERSON**.
 - During these procedures, **ONLY** remove the protective covers from the electric circuit and/or the inverter. Never remove the covers protecting the moving parts of the machine.

TRANSLATION OF THE ORIGINAL MANUAL



Management of waste from electronic devices

In compliance with Directive 2002/96/EC on the management of waste from electronic devices, it is the obligation of the manufacturer to warn that:

The electronic components removed from the washing machine must be delivered to treatment facilities authorized for this purpose.

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1. INTRODUCTION

Due to market obsolescence, the inverter model **DANFOSS** (p/n. 537068) is to be replaced by model **EGO1800W** (p/n. 14998918).

Contents of the kit 14998918:

14987754 - INSTRUCTION MANUAL FOR THE E18 INVERTER KIT

10471738 - IC COMMUNICATION WIRING

10052553 - E18 INVERTER ASSEMBLY

10485662 - LC/CC COMMUNICATION WIRING

This kit includes two communications wirings: one for Inteli control and another for Logi control and Coin control. Use the one you require and discard the other one.

2. INSTALLATION

2.1. Applicable kits and models

This modification applies to the spare parts sent as replacement for the following models:

- MS-613 / MG-613 / EM030 / MG030
- MS-617 / MG-617 / EM040 / MG040
- MS-623 / MG-623 / EM055 / MG055
- HS-6013 / EH030
- HS-6017 / EH040

VERY IMPORTANT! Before carrying out any operation on the machine, read the safety instructions.

2.2. Assembly

1. Note the current machine configuration (programs, phases, prices, etc.).
2. Switch off the machine from the mains and wait 5 minutes to allow the inverter capacitors to discharge.
3. Remove the washing machine's top cover (Fig. 2.1 / **A**).

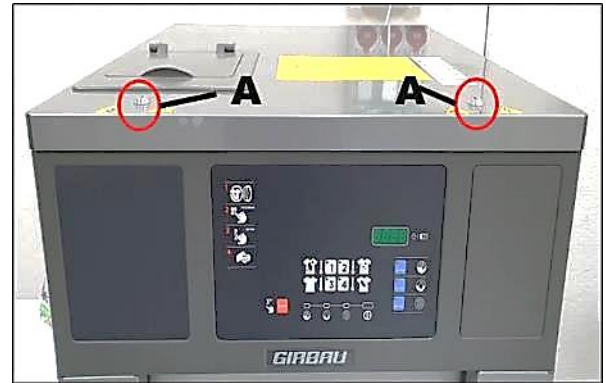


Fig. 2.1

4. Loosen the screws **A, B, C and D** (Fig. 2.2) fixing the inverter enclosure to the machine.



Fig. 2.2

5. Disconnect the cables that connect the inverter to the motor (Fig. 2.3/ **B**) and the communication cable (Fig. 2.4/ **D**).
6. Loosen the grounding screws **C** and **A** (Fig.2.3 / 2.4).

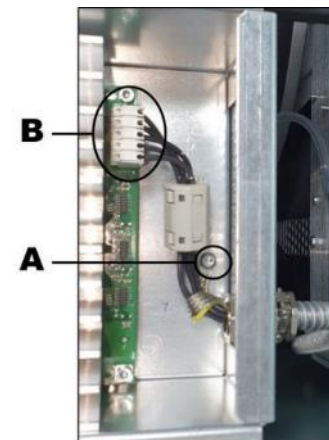


Fig.2.3

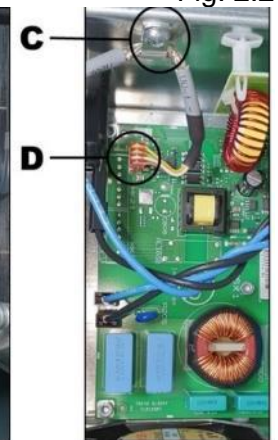


Fig.2.4

7. Disconnect the blue and black power cables **A** (Fig.2.5).
8. Disconnect the two white relay activation cables **B** (Fig.2.5).
9. Remove the communication cable **C** (Fig. 2.5) from inside the enclosure through the upper left hole **D** (Fig. 2.5).
10. Disconnect and remove the motor cable.
11. Remove the enclosure with the old inverter.

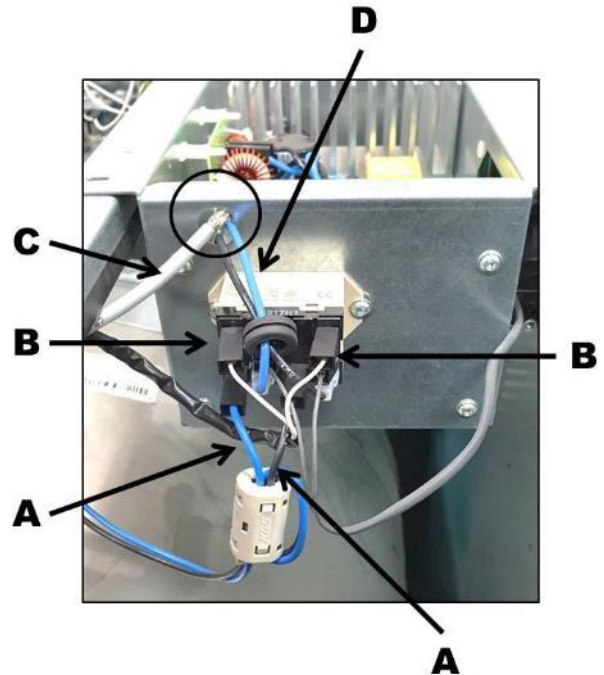


Fig.2.5

12. Loosen the screw **A** (Fig. 2.6) from the machine's crossbar and slide the crossbar upwards, as shown by the arrow.
13. Install the enclosure with the new inverter and retighten screw **A** (Fig. 2.6). Tighten the bar with the enclosure upper screws (Fig. 2.2/A and C).

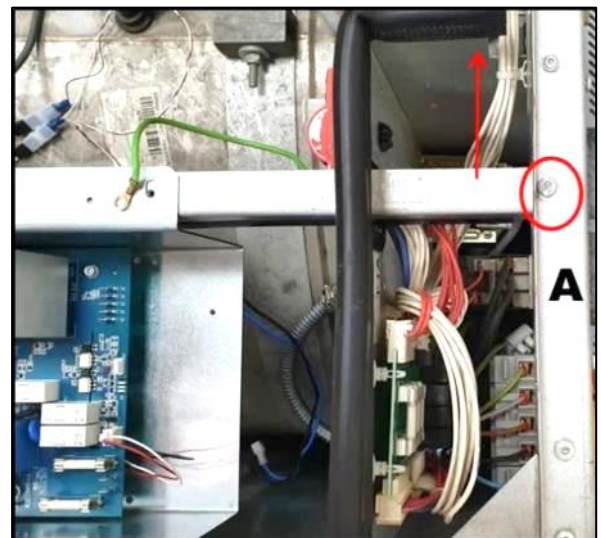


Fig.2.6

14. Remove the cable ties from cables **A**, **B** and **C** (Fig. 2.7).
15. Move the blue and black power supply cables (Fig. 2.5/A), and the white cables (Fig.2.5/ B) from position **C** to position **A** (Fig.2.7) and remove the communication cable.

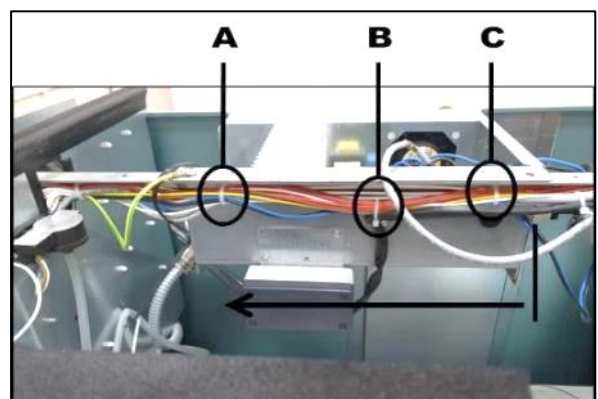


Fig.2.7

- 16. Connect the adapter cable **A** (Fig.2.8) installed in the inverter enclosure to the 12V power supply cables.
- 17. Install the new communication cable supplied in the kit. Choose the one that corresponds to the machine's control type.
- 18. Fix the cables with the cable ties, as shown in figure 2.7.

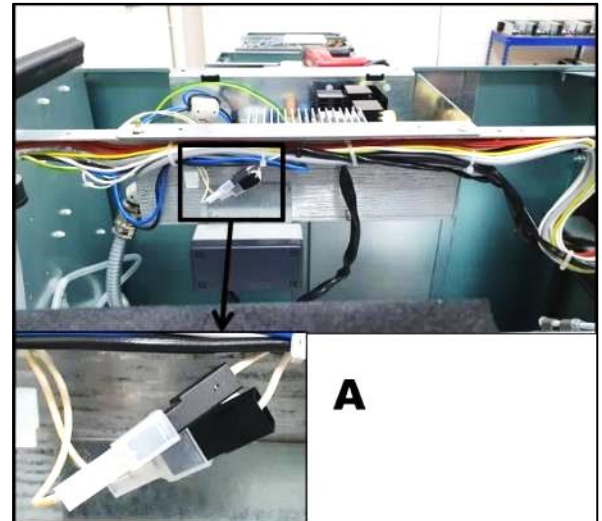


Fig.2.8

- 19. Connect and secure the motor cable **A** (Fig. 2.9).
- 20. Connect the new communication cable **B** (Fig. 2.9).
- 21. Connect the power adaptor cable **C** (Fig. 2.9).
- 22. Connect the 220V power cables **D** (Fig.2.9).
- 23. Attach the communication cable to the inverter enclosure.

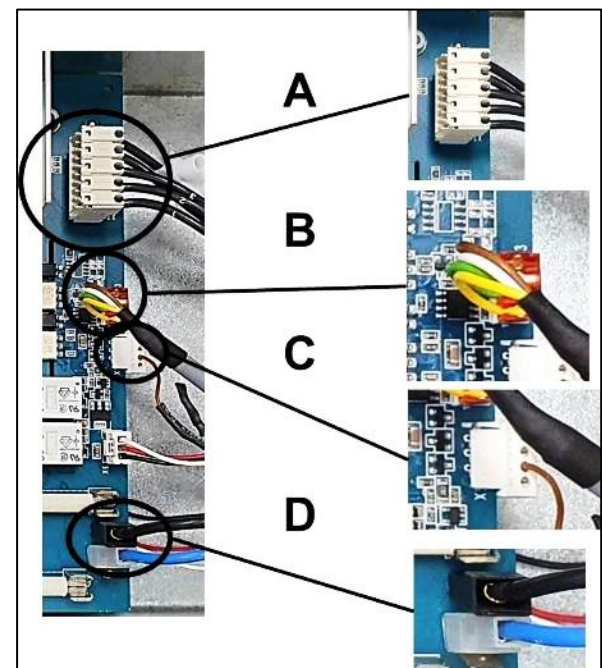


Fig.2.9

- 24. Tighten screws **A, B, C** and **D** (Fig. 2.10) to secure the inverter enclosure to the machine.
- 25. Fit the washing machine top cover.



Fig.2.10

3. INSTALLING THE CONTROL BOARD

3.1. Upgrading the control board

Upgrade the software to the version indicated in the table below or to a higher version. Follow the steps in the video below. If in doubt, please contact the Authorized Technical Service.

VERY IMPORTANT!

Before upgrading the board, disconnect all cables from Sapphire, the payment kiosk, etc.

Reconnect all cables after upgrading.




<https://youtu.be/G-iTkF5KAhY>

If it is not possible to upgrade the software, replace the control board. Please refer to the following table for the part number to be ordered according to the type of control. To replace the board, follow the instructions in Chapter 3.2.

CONTROL TYPE	CONTROL BOARD P/N.	SOFTWARE NAME	VERSION
LC/CC	594507	594507_LC CC H13 H17_20230221_v61_R0.bin	61
IC	437434	437434_IC H13 H17_20230221_v47_R0.bin	47
IC AQUATOUGH	10128981	10128981_AQUATOUGH H13 H17_20230221_v47_R0.bin	47
IC AQUATOUGH EVOLUTION	10520179	10520179_AQUATOUGH EVOLUTION H13 H17_20230221_v47_R0.bin	47
IC ALLWET	10240547	10240547_ALLWET H13 H17_20230221_v47_R0.bin	47
IC ADVANCE	10080315	10080315_ADVANCE H13 H17_20230221_v47_R0.bin	47
IC CLEAN SURF	10817120	10817120_CLEAN SURF H13 H17_20230221_v47_R0.bin	47

1. Fit the washing machine covers and the other guards removed during the kit assembly.
2. Check that all safety devices are correctly fitted.
3. Connect the machine to the mains supply.
4. Make sure the machine is correctly configured and adjusted. For further information, please refer to the *Technical Assistance Instruction Manual* available on the website.
5. Enter the machine settings (programs, phases, prices, etc.), that have been noted down at the beginning of the procedure. The washing machine is now ready to run again.

3.2. Replacing the control board

 **WARNING!**
Before replacing the control board, read the safety instructions carefully.

1. Remove the washer's top cover.
2. Carefully disconnect all the connectors and wires from the front panel board **A** (Fig. 3.1).



Fig. 3.1

3. Unscrew the four nuts **A** (Fig.3. 2) and remove the front panel.



Fig.3.2

4. If the old board has the clock card **A** fitted (Fig. 3.3), remove it and fit it onto the new board.
5. If the old board is fitted with communications board **B** (Fig.3.3), also remove it and fit it onto the new board.

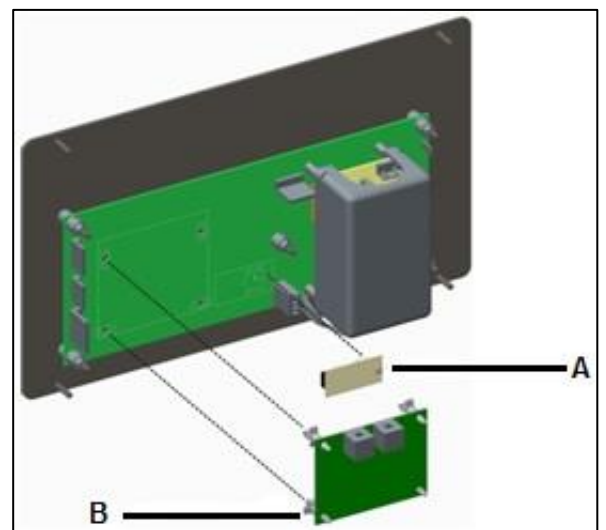


Fig. 3.3

6. On LC-CC control machines, locate and remove the machine identifier X18-X19 (Fig. 3.4) and fit it onto the new board.

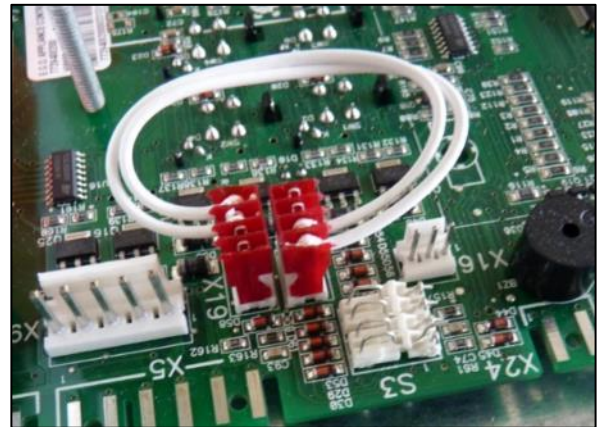


Fig.3.4

7. Fit the new board and secure it in the same position as the former one.
8. Connect all the connectors to the new board on exactly the same connectors (matching the location and the connector number exactly) as on the former board.
9. Fit the washer covers and other guards removed during the kit assembly.
10. Check that all of the machine's safety devices are correctly fitted.
11. Connect the machine to the mains supply.
12. Make sure the machine is correctly configured and adjusted. For further information, please refer to the *Technical Assistance Instruction Manual* available on the website.
13. Enter the machine settings (programs, phases, prices, etc.), that have been noted down at the beginning of the procedure. The washing machine is now ready to run again.