7. Fault signalling

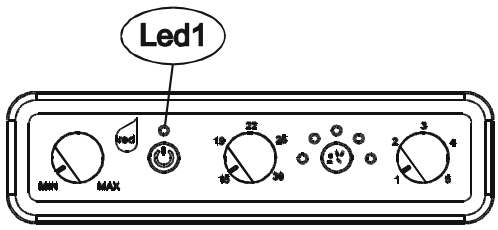
7.1. Alarm signal and exiting alarm conditions.

Starting from the alarm intervention the appliance enters an automatic cooling phase which is very similar to the "shut down mode". This ensures that the system is cooled correctly and cleaned automatically.
If an operating fault is detected the stove signals this with an acoustic signal and informs the user of the type of fault, displaying this on the control panel. If you wish to stop the acoustic signal to continue the cooling phase, simply press the ON/OFF
Some alarms can be cancelled by simply pressing the key. Examples of these alarms include "start-up failed" or "flame extinguished". Other alarms require the intervention of a specialised technician.
If an alarm intervenes, to restore normal operation of the stove hold down the ON/OFF key for a few seconds.
After a brief period during which the appliance checks whether the cause that triggered the alarm has subsided, the appliance exits alarm mode and can be restarted.

The types of alarm and types of alarm signal that relate to the control panels of the various RED appliances are shown below

7.2. Control panels and list of alarms

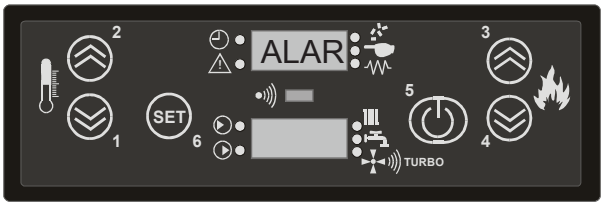
7.2.1. RED AIR and MULTIAIR stove alarms

RED AIR and MULTIAIR APPLIANCES	LED 1
	• **Off:** The stove is waiting to start up • **Flashing green:** Start up • **Fixed green:** Stove on at full power • **Flashing orange:** Shut down • **Flashing red:** Alarm in progress • **Fixed red:** Stove switched off after alarm

LED SIGNAL	TYPE OF FAULT	SOLUTION
Led -2	Fire failed to ignite	Check the pellet level in the tank. Check whether the brazier is correctly seated and ensure that it does not have any evident incrustations of unburned fuel.
Led -1	Abnormal fire extinguishing	Check the pellet level in the tank. Check whether the brazier is correctly seated and ensure that it does not have any evident incrustations of unburned fuel.
0 LED	The temperature of the pellet tank exceeds the safety threshold specified *or* Smoke outlet pipe obstructed or back-pressure caused by wind outside.	Wait for the cooling phase to end, cancel the alarm and restart the stove by making the stove operate at a lower operating power or reduce the amount of fuel by modifying the recipe. *or* Check and clean the ENTIRE smoke duct or check whether the outside wind prevents the smoke from exiting.
Led +1	Smoke blower fault operation.	Check that the brazier has no evident incrustations of unburned fuel. If the alarm persists contact the service centre.
Led +2	Smoke temperature too high or smoke sensor fault.	Wait for the cooling phase to end, cancel the alarm and restart the stove by positioning the fuel loading to minimum on led-2 (para. 4.10) and increasing the speed of the room fan (knob A). If the alarm persists contact the service centre.

7.2.2. RED COMPACT 24 boiler alarms

RED AIR and MULTIAIR APPLIANCES



MESSAGE	TYPE OF FAULT	SOLUTION
ALAR DEP FAIL	Smoke outlet pipe obstructed or back-pressure caused by wind outside.	Check and clean the ENTIRE smoke duct or check whether the outside wind prevents the smoke from exiting. Only once the cause of the shutdown has been permanently remedied can the stove be restarted.
ALAR FAN FAIL	Smoke blower fan speed too low or fan off The smoke blower fan is blocked by a foreign body. The fan is broken.	Check how clean the fan is and whether dirt is slowing it down. If the problem is not solved through cleaning, replace the smoke blower fan Check that the encoder cable is connected correctly
ALAR SOND FUMI	The smoke sensor is damaged.	Replace the smoke sensor
ALAR SIC FAIL	The safety device that controls the pellet tank or the temperature of the water in the boiler has been triggered.	Overheating has been detected, caused by a malfunction or an overload of fuel Check the parameters of the recipe used Check whether there are closed cut-off cocks. The boiler was used at maximum performance for too long.
ALAR HOT TEMP	This occurs when the temperature of the smoke reaches and remains above the set parameters for too long.	Clean the inside of the exchanger and operate the boiler at maximum performance for shorter periods of time. Also check the quality of pellets.
ALAR NO ACC	This occurs at the first failed start-up attempt.	If this was the first start-up and the tank was empty, repeat the start-up process or check the level of pellets in the tank. Check the pellet igniter.
ALAR NO FIRE	It occurs when the boiler shuts down and when the smoke sensor temperature is below the set threshold.	It is due to the flame dying out due to clogging or when the pellets in the tank have run out.

7.2.3. RED PRACTIKA 25-33 and VARIOMATIC 33 boiler alarms

PRACTIKA and VARIOMATIC APPLIANCES


MESSAGE	TYPE OF FAULT	SOLUTION
A01	Fire failed to ignite	Check the pellet level in the tank. Check whether the brazier is correctly seated and does not have any evident incrustations of non-combusted fuel; Check whether the pellet igniter heats up.
A02	Abnormal fire extinguishing	Results from fire extinguishing due to lack of fuel (tank empty).
A03	The pellet tank safety device has been triggered.	Overheating has been detected, caused by a malfunction or an overload of fuel Check the parameters of the recipe used The boiler was used at maximum performance for too long.
A08	Smoke blower fan faulty	Check that the smoke blower fan is clean to ensure that no dirt is clogging it. If this does not solve the problem the smoke blower is faulty. Call an authorised service centre to have the fan replaced.
A10	The pellet igniter is faulty	Contact an authorised service centre to have the component replaced.
A11	Fault in the geared motor of the pellet feed	Contact an authorised service centre to have the component replaced.
A13	Electronic board fault	This alarm is triggered if the board does not communicate with its peripherals (cables poorly connected) or if there is a fault in the electronic board. Contact a service centre to have the component replaced.
A18	Temperature of the water tank too high	This alarm is triggered if the water inside the system does not circulate and the safety temperature (95°) and boiling temperature rise. Check the pump and release it if it has shut down. Check whether there are closed cut-off cocks.
Service	Regular maintenance advice	If this message appears at start-up, this means that the preset operating time before maintenance has expired and maintenance is due to be carried out. Contact a qualified technician.

8. Fault solutions

8.1. LED -2 / NO ACC / A01= Start-up failed

The **FAILED START-UP** alarm of the appliance is signaled if the smoke temperature sensor does not reach **50 °C** within the **15 minutes** set for the start-up.
This fault may arise for the following reasons:

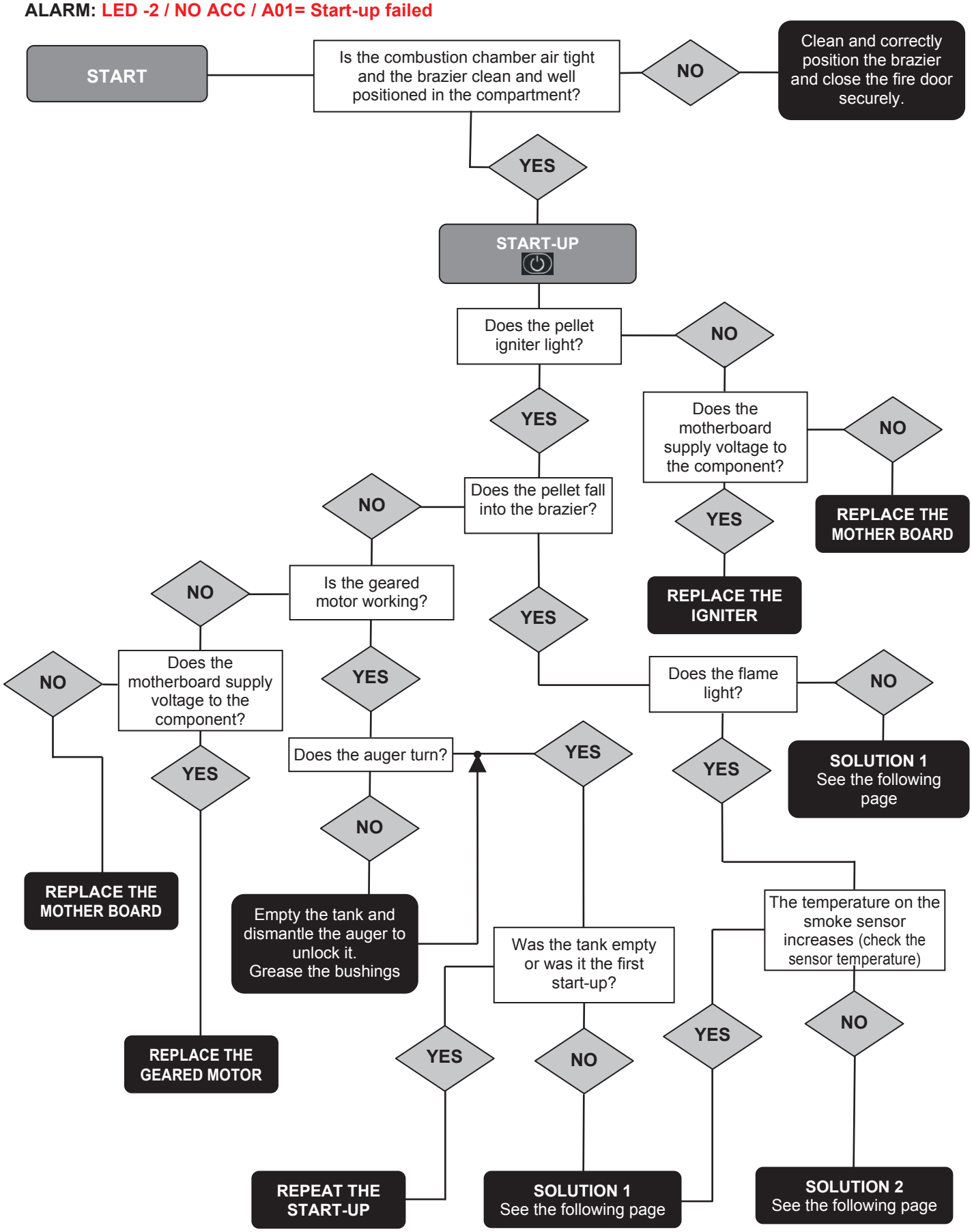
- Infiltration of air from the seals on the door and cleaning compartments.
- Fuel loading faults.
- If start-up begins with the auger empty.
- Malfunction of the pellet igniter.
- Incorrect position or dirt in the brazier.

CAUTION!!
The stove will only switch on if all of the seals ensure perfect sealing of the combustion chamber.

- Check that the openings for non-scheduled cleaning are securely closed and show no infiltration.
- Check the condition of the seal on the smoke fan inspection opening.
- Check that the door seal is airtight using a sheet of paper.
  Position the sheet of paper between the fire door and the structure, close the door and try to withdraw the sheet of paper. If the sheet of paper is easily extracted the seal must be checked or replaced. If the seal is compliant with the specifications, perform this test along the entire perimeter of the door seal.
- Check the condition of the door seal on the ask drawer using the same method described above.
- Check that the eccentric bushing of the door handle is securely locked.
- Check that the brazier is positioned correctly and that the holes in the brazier are all clean.
- Check that the tank is full of pellets.

WHEN THESE CHECKS HAVE BEEN MADE PROCEED USING THE FOLLOWING FAULT DETECTION DIAGRAM

DIAGRAM no. 1
ALARM: LED -2 / NO ACC / A01= Start-up failed



SOLUTION 1
If electronic and mechanical components are all working absolutely correctly and the combustion chamber is fully watertight, **look for the fault in the assembly formed by brazier, igniter duct and air inlet duct**. The most likely causes are a result of excessive distance between igniter duct and brazier hole. In this case, it may be used to: • Widen the hole of the brazier to Ø 12 mm. • Check that the holes of the igniter duct are free and allow easy introduction of air to be heated and start-up. • Check that the air inlet pipe is not ducted using a pipe that is too long or winding.
SOLUTION 2
In this situation, only the fume sensor can be responsible for the problem. The fume sensor is not communicating the correct temperature increase to the motherboard, even if the flame is lit. Therefore, the NO FIRE" alarm is triggered at the end of the start-up process (15 minutes). In this case, check whether: • the fume sensor correctly positioned and consequently not in contact with hot fumes • the fume sensor is insulated by too much silicon contained in the well • the fume sensor on the motherboard is wired incorrectly; the sensor always indicates minimum value **(30 °C)** when the polarities are reversed. **N.B.** The fume sensor in this case is not damaged; the alarm on the panel would be different if it were. **LED +2 / ALAR SOND FUMI / A04 = Smoke sensor alarm**

8.2. LED -1 / ALAR NO FIRE / A02 = Abnormal fire extinguishing

This type of alarm is detected when the smoke sensor drops **below 50 °C.** This fault may arise for the following reasons:

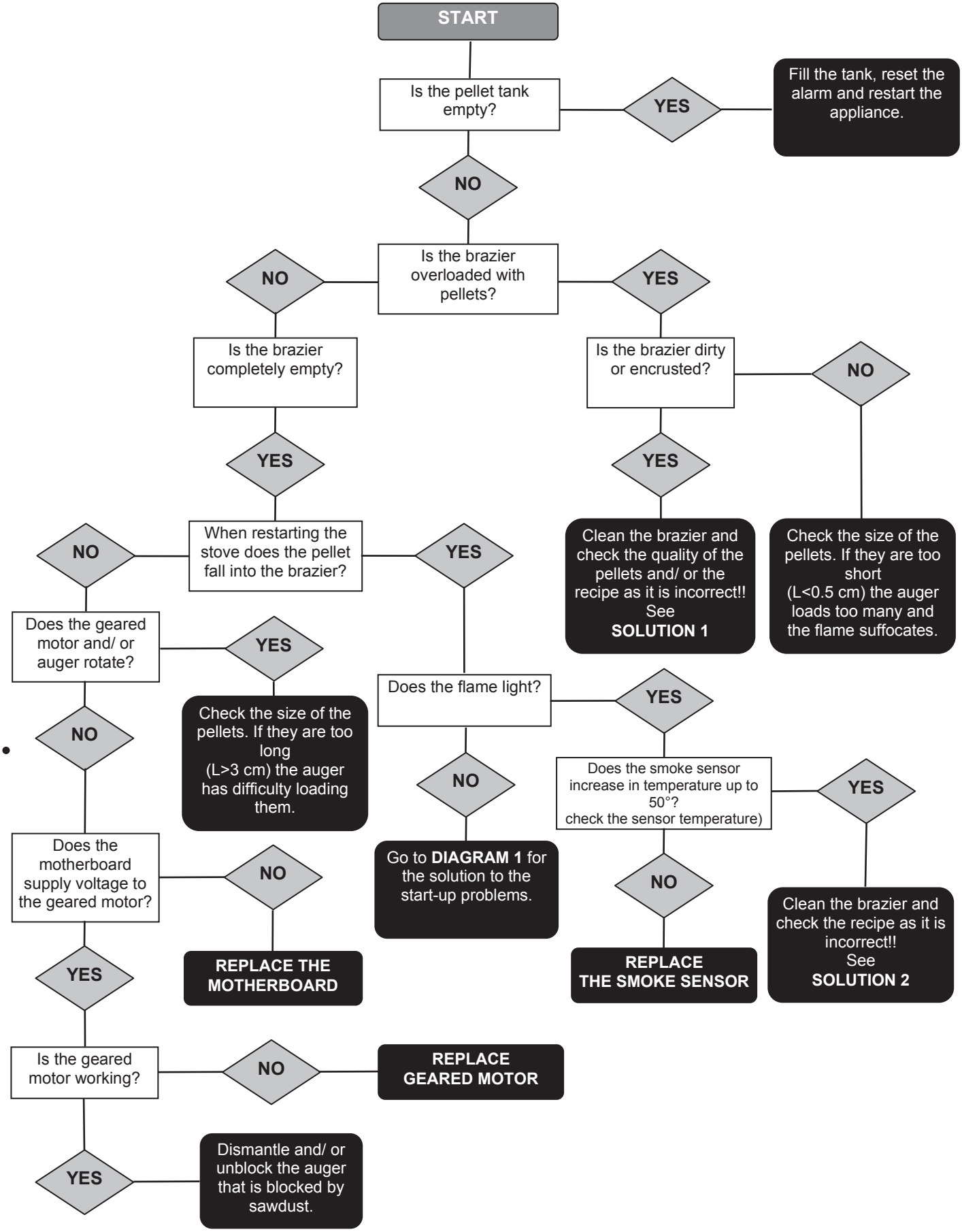
- Poor intake of fuel into the brazier due to an incorrect recipe setting and therefore extinguishing of the flame due to a lack of pellets to burn.
- Excessive fuel intake in the brazier due to an incorrect recipe setting and therefore suffocation of the flame.
- Empty pellet tank.
- Smoke sensor that does not correctly detect the temperature of the smoke.

The stove is operating correctly and combustion is regular only if all of the seals guarantee that the combustion chamber is perfectly sealed.

- Check that the openings for non-scheduled cleaning are securely closed and show no infiltration.
- Check the condition of the seal on the smoke fan inspection opening.
- Check that the door seal is airtight using a sheet of paper.
  Position the sheet of paper between the fire door and the structure, close the door and try to withdraw the sheet of paper. If the sheet of paper is easily extracted the seal must be checked or replaced. If the seal is compliant with the specifications, perform this test along the entire perimeter of the door seal.
- Check the condition of the door seal on the ash drawer using the same method described above.
- Check that the eccentric bushing of the door handle is securely locked.
- Check that the brazier is positioned correctly and that the holes in the brazier are all clean.
- Check that the tank is full of pellets.

WHEN THESE CHECKS HAVE BEEN MADE PROCEED USING THE FOLLOWING FAULT DETECTION DIAGRAM

DIAGRAM no. 2
ALARM: LED -1 = Abnormal fire extinguishing



SOLUTION 1

In this situation the problem is an incorrect recipe selection, causing:

- Excessive fuel load.
- Poor combustion quality that leaves waste and obstructs the holes of the brazier.

In this situation it may be useful to:

- Change to a certified fuel type (DIN +, etc.).
- If the blockage and consequent extinguishing of the flame occur for a long period of time (7-8 hours) if may be sufficient to **decrease** the intake of pellets by reducing the recipe (e.g.: from **LED 0** a **LED -1**) to slightly reduce the amount of pellets entering the combustion chamber. If available, you may also think of increasing the recipe by two points to resolve blockages that are a little more consistent.
- If the blockage and consequent flame extinguishing occur for a short period (2-3 hours) the recipe must be modified substantially to reduce the pellet intake.

If the problems are not risolved the solutions are:

- Check the airtightness of the combustion chamber and the entire area of the smoke passage where there is a vacuum.
- Modify the installation.

SOLUTION 2

In this situation the problem is an incorrect recipe selection, causing:

- Poor fuel load.
- Incorrect interpretation of the installation type (HORIZONTAL or VERTICAL).
- Poor combustion quality that leaves waste and obstructs the holes of the brazier.

In this situation it may be useful to:

- Change to a certified fuel type (DIN +, etc.).
- If the flame always remains low, even at maximum power levels, this means that you must **reduce** the recipe (e.g.: from M7 to M6) to increase the quality of pellets entering the combustion chamber.

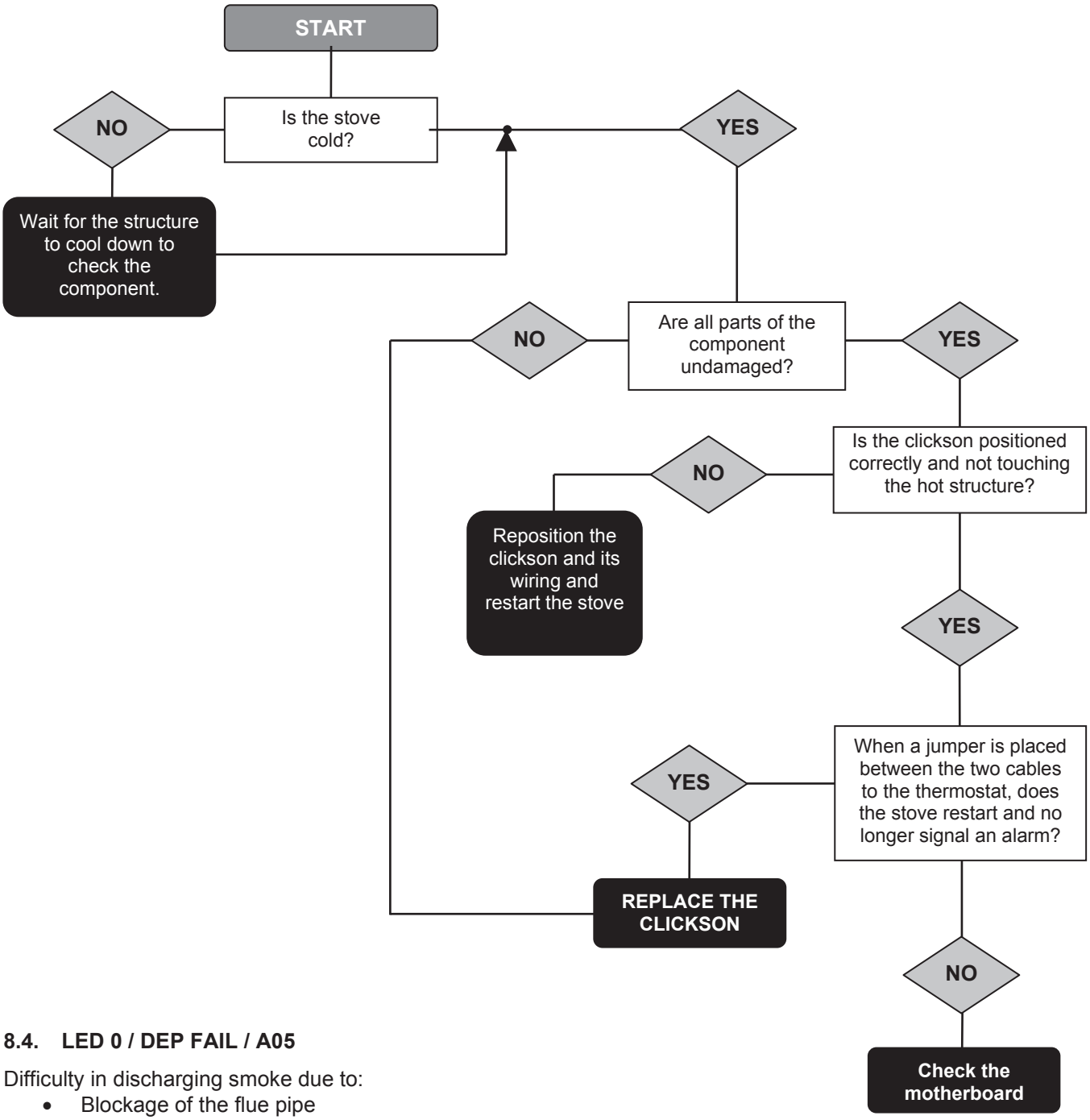
8.3. LED 0 / ALAR SIC FAIL / A03= Pellet tank safety thermostat

This type of alarm occurs when the bulb thermostat or contact thermostat positioned on the tank exceed the safety temperature set at 110 °C.
This alarm can also intervene if the temperature of the water in the boiler exceeds the temperature by 90 °C. In HYDRO stoves there is a second bulb thermostat for safety that prevents the water in the boiler from boiling.
This safety device can intervene if:

FOR ALL APPLIANCES

1. The appliance has been operating for too long at maximum power with the hot air ventilation at low levels.
2. The quality of pellets is poor and causes the structure to overheat.
3. The recipe or combustion calibration is incorrect and the flame is always very high as it is overloaded with fuel.
4. Blocking or breakage of the hot air fan that also cools the structure.
5. Damage to the bulb/ contact thermostat.

DIAGRAM no. 3
ALARM: **LED 0 / ALAR SIC FAIL / A03 = Pellet tank safety thermostat**



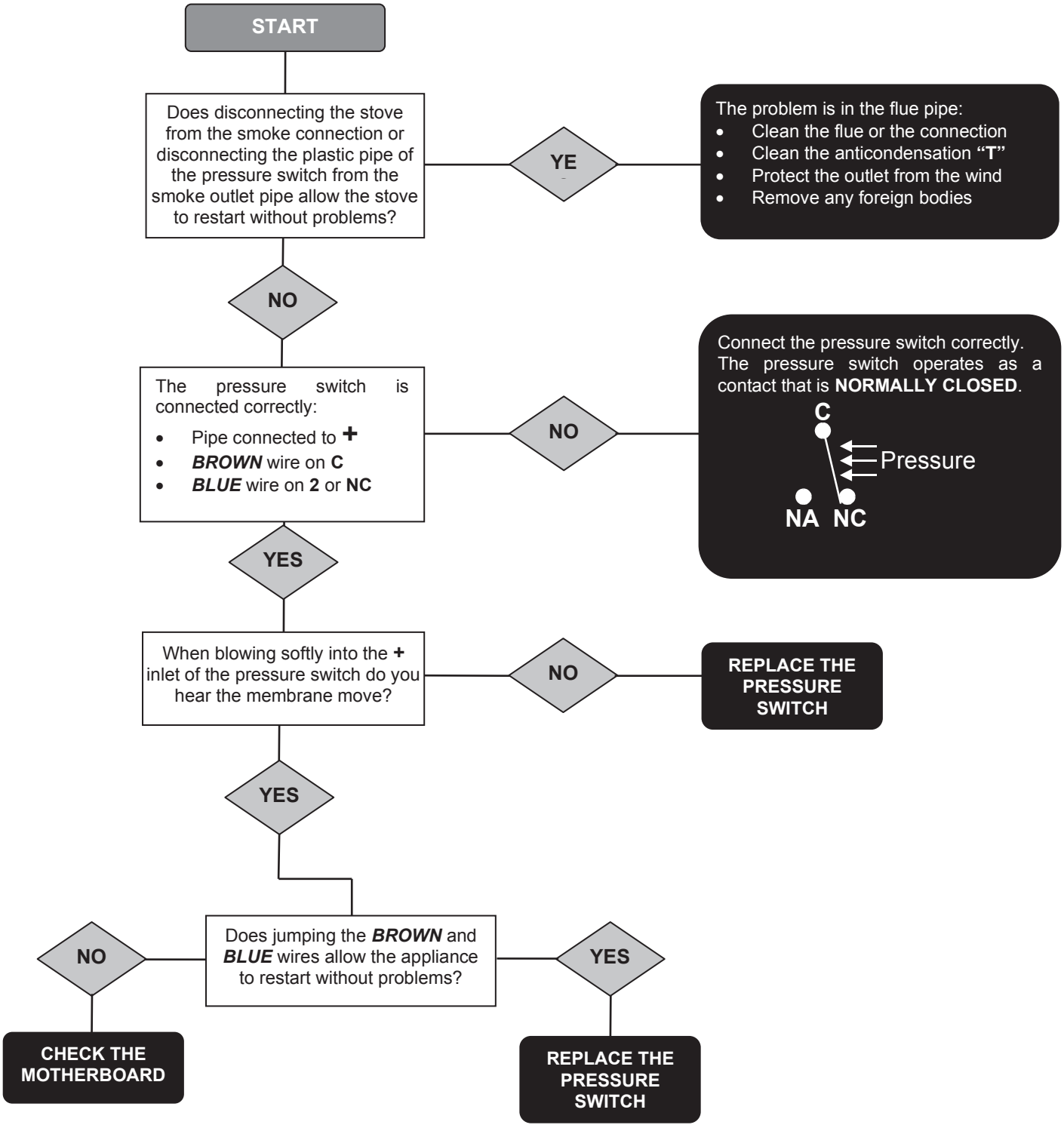
8.4. LED 0 / DEP FAIL / A05

Difficulty in discharging smoke due to:

- Blockage of the flue pipe
- Presence of a foreign body in the flue pipe (birds, nests, clogged grilles, etc.).
- Wind entering the flue pipe because the pipe is not protected or because installation has been carried out without a flue pipe or on a wall.
- Cold air descending from the flue pipe.
- Damaged pressure switch
- Blockage of membrane inside the pressure switch as soot or condensation has entered the the membrane.

WHEN THESE CHECKS HAVE BEEN MADE PROCEED USING THE FOLLOWING FAULT DETECTION DIAGRAM

DIAGRAM no. 4
ALARM: **A05 / DEP FAIL / SMOKE VACUUM**



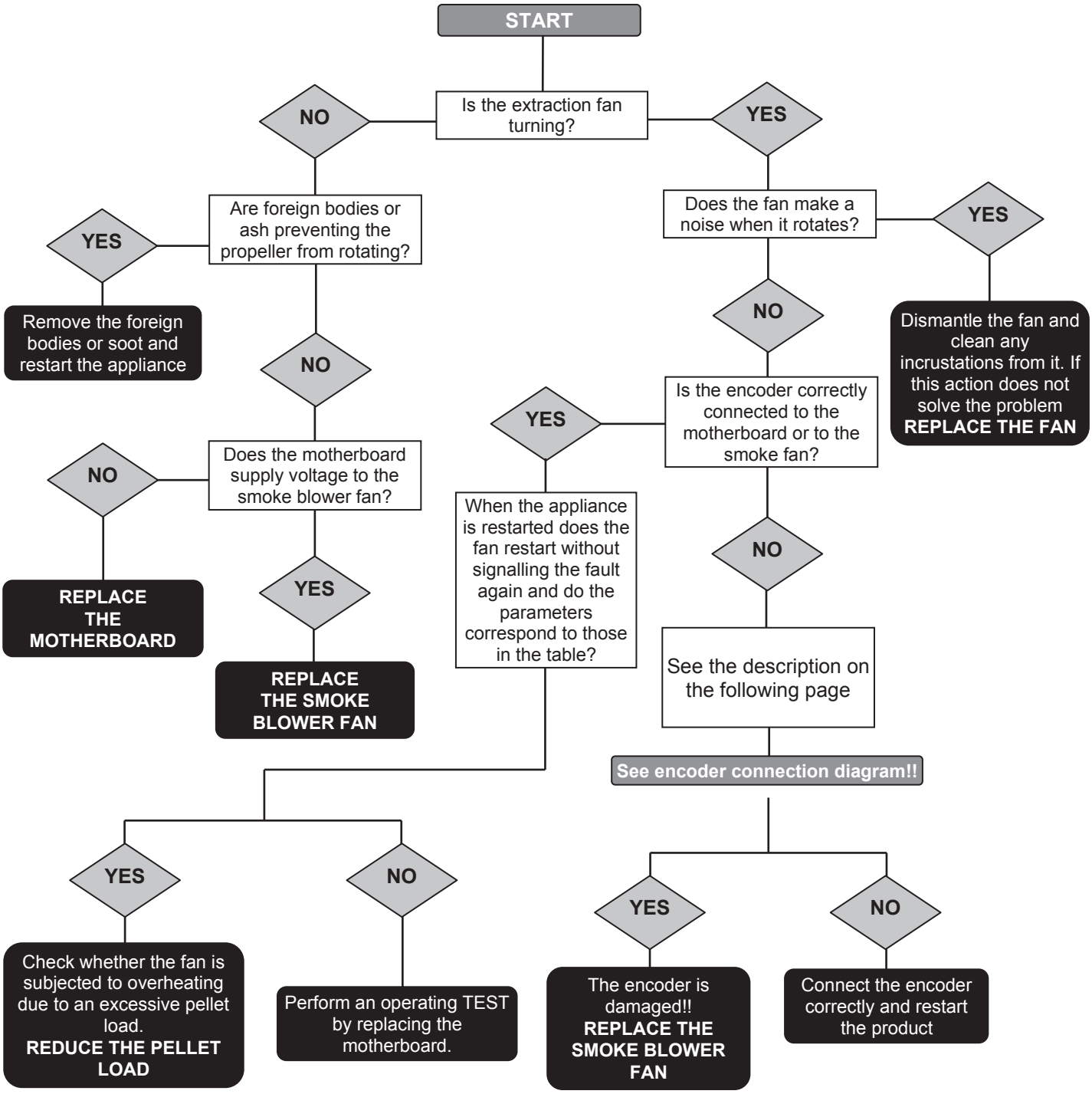
8.5. LED +1 / ALAR FAN FAIL / A08= Smoke blower fan

This alarm is caused when the smoke fan is not operating.

This alarm may arise for the following reasons:

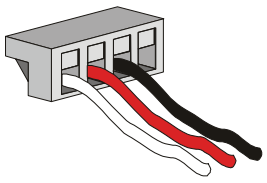
- The smoke blower fan is faulty.
- The encoder is damaged.
- Overheating. The fan safety sensor has intervened due to the excessive temperature.
- A foreign body or soot is preventing the fan propeller from rotating.

DIAGRAM no. 4
ALARM: **LED +1 / ALAR FAN FAIL / A08 = Smoke blower fan**



ENCODER CONNECTION

Carefully check the connection between the 3 encoder cables on the fan and the motherboard. This connection is made on a GREEN terminal with 4 positions, even if there are **only 3** wires to connect. The order of the wires is indicated in the figure. Start from the **LEFT** to arrive on the right of the connector **WHITE - RED - BLACK.**



The last position, on the left of the connector, **MUST remain EMPTY**!!!

8.6. LED +2 / ALAR HOT TEMP / ALAR SOND FUMI / A04

Overheating of the smoke above a certain safety temperature that can be between **250 °C and 280 °C,** depending on the type of product. This fault can be caused by:

- Uncertified pellets that contain chemical substances (glue, thickening agents, etc.) that increase temperatures.
- High quantity of dirt and ash inside the smoke passage chambers. The ash insulates the heat exchange walls and does not allow heat to dissipate. **CLEAN THE APPLIANCE FULLY.**
- Incorrect recipe and constant fuel overloading that causes temperatures to rise.
- **SMOKE SENSOR broken**. This fault can be caused simply by natural electrical phenomena. Therefore, it is useful to replace the component, given the importance of this device.
- **Wiring fault.** If the alarm is not caused by breakage of the component, it may be due to incorrect wiring. **Therefore, check that the smoke sensor is securely connected to the motherboard.**

CAUTION!!
The two smoke sensor cables (**BLUE** and **RED**) have (**+** and **–**) polarity. Therefore, take care to ensure that the cables are inserted correctly (see the wiring diagram of the stove that you are operating on).
With regard to ACTIVE SYSTEM appliances, the smoke sensor is fitted with a special connector to insert in the motherboard. This eliminates the possibility of errors. With regard to PELLET BOX stoves, the smoke sensor is wired directly to the motherboard. There may, potentially, be a wiring defect.
To test the correct operation of the smoke sensor, observe the temperature on the appliance display.

8.7. A10

This alarm signals that **THE PELLET IGNITER IS NOT WORKING**. The motherboard detects that the component is not absorbing the voltage and signals this fault.
Replace the igniter after a brief test with an electrical tester.

8.8. A11

This alarm signals that **THE GEARED MOTOR IS NOT WORKING**. The motherboard detects that the component is not absorbing the voltage and signals this fault.
Replace the geared motor after a brief test with an electrical tester.

8.9. A13

Alarm **A13 identifies a generic communication problem between the motherboard and the other appliance components.**
The motherboard is able to perform diagnostics on components and on itself when communication between the various elements stops (geared motor, sensors, fans, etc). If the fault involves parts such as the geared motor or pellet igniter the motherboard communicates a specific alarm (A10, A11, etc). In other situations the fault is a little more complicated and generic and alarm **A13** is used. The clearest example of the complex nature of the fault can be identified with the electromagnetic interference in the wiring.

A13 DOES NOT MEAN THAT THE MOTHERBOARD IS FAULTY AND DEFINITELY NEEDS REPLACING but you must check for possible communication problems. Sometimes replacing the motherboard has a positive effect. This is only because the connection problem is solved by disconnecting and reconnecting the flat cables.

This alarm can arise for the following reasons:

- The mother board is faulty.
- The motherboard is not able to communicate sufficiently with other components due to electromagnetic interference that is created between the cables that high voltage passes through (220 Volt cables that supply the fans, the pellet igniter, the geared motor) and the cables that low voltage passes through (12 or 5 Volt: flat cables, smoke sensor cable, encoder, control/ receiver panel). In this situation the electrical system of the appliance must be rewired, taking great care not to band together the two types of cable (particularly the encoder and receiver cables).
- Overheating of a component that operates in a faulty manner and therefore does not respond sufficiently to the motherboard. The components that can, potentially, cause this type of fault are the smoke blower fan and the pressure switch.
  These situations can occur easily as the appliance, when cold, restarts without signalling further alarms,