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Prestige Solo PT 60-110-175-250-399
Prestige Excellence PTE 110
Prestige Solo PA 80-110-155-175-250-299-399
Prestige Excellence PEA 110

Carbon Monoxide (CO) Boiler Interlock Kit - Installation & Maintenance Instructions

⚠ WARNING

Installation shall be performed by a qualified installer, service agency, or the gas supplier.

CONTENTS

1 - Definitions

The following terms and symbols are used throughout this manual to bring attention to the presence of potential hazards or to important information.

⚠ DANGER

Indicates the presence of a hazardous situation which, if ignored, will result in substantial property damage, serious injury, or death.

⚠ WARNING

Indicates a potentially hazardous situation which, if ignored, can result in substantial property damage, serious injury, or death.

NOTICE

Indicates special instructions on installation, operation or maintenance, which are important to the equipment but not related to personal injury hazards.

This symbol indicates that you need to make a picture (with your phone or other) for later reporting.

This symbol indicates that an instructional "HOW TO" video is available from Triangle Tube's website. A direct link to the library is available at the top left corner of the front cover.

2 - Purpose

The installation of this kit (see *Fig. 1* for details) close to the boiler improves end user safety with respect to Carbon Monoxide (CO) hazards.

⚠ WARNING

This Carbon Monoxide (CO) Boiler Interlock Kit is provided as an additional level of safety for the end user. It substitutes in no way for the mandatory CO detectors to be installed by the end user in the living spaces.

3 - Applicability

Prestige Solo PT 60-110-175-250-399
Prestige Excellence PTE 110

Prestige Solo PA 80-110-155-175-250-299-399
Prestige Excellence PEA 110.

These instructions shall be kept with the appliance literature for future reference.

4 - Kit Reference & Contents *(Fig. 1)*

Kit part number : PARKIT520 (US) / PARKIT521 (CANADA)

1. Magnet-fitted base box, equipped with CO boiler interlock device and cables (with mounted cable glands)
2. Power supply harness, equipped with three connectors
3. Signal harness with terminal block
4. Cable clips
5. Installation instructions for the installer
6. Carbon Monoxide Information for the end user.

NOTICE

This kit is hard-wired to the boiler, meaning that the CO boiler interlock device gets its 120V power supply from the boiler and acts as a boiler emergency shut-off switch when it detects a defined level of Carbon Monoxide (CO) in the air.

It is also equipped with a 9V battery that provides an additional level of safety in case there is a mains power failure. The battery alone will, however, NOT shut off the boiler in case of alarm.

5 - Defining the Installation Location

This kit can be installed either on top of the boiler or on a wall, adjacent to the boiler if clearance on top of the boiler does not allow installation.

NOTICE

Do not install the CO boiler interlock assembly on one of the boiler sides, or on the front panel, as the magnets are not strong enough to support the weight of the device.

When selecting the installation location, please take into account the technical data set out in the next section.

5.1 Dimensions and weight (*Fig. 1*)

The kit weighs around 3 Lbs [1.5 kg]. In addition, it is equipped from factory with two cables, one for power supply and one for boiler shut-off, in case of CO alarm. Both are about 6.5 ft [2 meters] long.

⚠ WARNING

Do not shorten the cables or tamper with them. If they are too long, roll and secure them. Select the appropriate location so that they are not too short when connecting to the boiler.

Failure to comply can result in property damage, serious injury or death.

5.2 On Top of the Boiler (*Fig. 2*)

The CO boiler interlock assembly will preferably be installed on top of the boiler, maintained by the magnets located under the base (**C**), provided that :

- clearance is sufficient on top of the boiler
- the CO boiler interlock device LED (**B**) is visible from the floor (by the user)

NOTICE

In some cases the installation on top of the boiler is not possible due to a lack of clearance above the boiler. Therefore, the CO boiler interlock assembly *must be installed on a wall adjacent to the boiler. See next section for more information.*

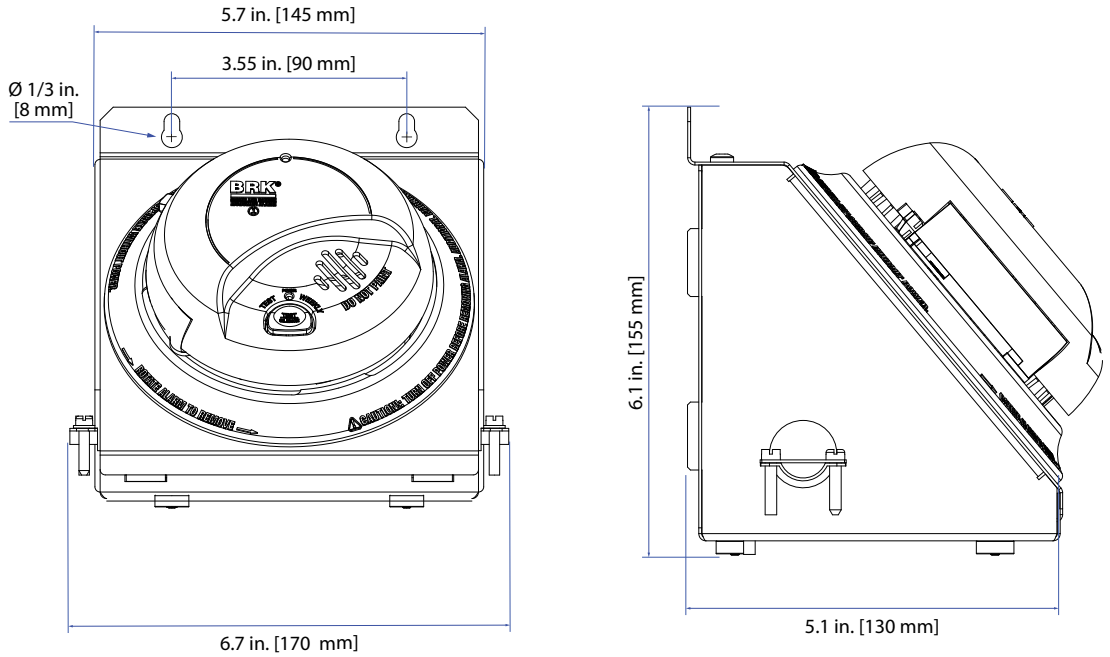


Fig. 1 - Carbon Monoxide Boiler Interlock Assembly Dimensions

5.3 On a Wall Adjacent to the Boiler (*Fig. 2*)

If installation on the boiler is not possible, the CO boiler interlock assembly base box (**C**) must be installed on a wall using the two eyelets (**A**), and screws and anchors adapted to the weight of the assembly (about 3 Lbs [1.5 kg]).

The following additional requirements shall be complied with:

- the length of the flex armored power supply cable (**D**) and the grey signal cable (**E**) allows for a certain distance from the boiler.
- the CO boiler interlock device LED (**B**) shall be visible from the floor (by the user).

6 - Kit Installation

6.1 Tools and material (not provided with the kit)

- Screwdriver, cross head
- Screwdriver, small, flat head
- Cable ties

WALL INSTALLATION ONLY:

- Power drill
- Hardware (screws and anchors)
- Bubble level or similar
- Pencil or similar

6.2 Base Box Installation

1. Place the base box on top of the boiler, if possible.
2. Route the gray signal cable (**E**) along the left side of the boiler, and the flex armored power supply cable (**D**) along the right side.

NOTICE

If placing the CO boiler interlock assembly *box on top of the boiler, make sure that:*

- *the LED is visible from the floor.*
- *Any excess length of cables is rolled and secured.*

3. If the CO boiler interlock assembly box cannot be installed on top of the boiler, install it on the wall, following the procedure below.

6.3 Wall Installation

1. Considering the cable length, define the CO boiler interlock assembly position on the wall, adjacent to the boiler.

NOTICE

When installing on the wall, make sure that:

- *the CO* boiler interlock assembly *cables are not taut after installation and connection to the boiler. Roll any excess length and secure with cable ties and cable clips.*
- *the LED of the CO* boiler interlock device *remains visible to the user at all times.*

2. With a pencil, mark the location of the mounting slots on the wall. Make sure your markings are level.
3. Drill the holes into the wall.
4. Install CO boiler interlock assembly box on the wall with anchors and screws.
5. Route the gray signal cable (**E**) along the left side of the boiler, and the flex armored power supply cable (**D**) along the right side.

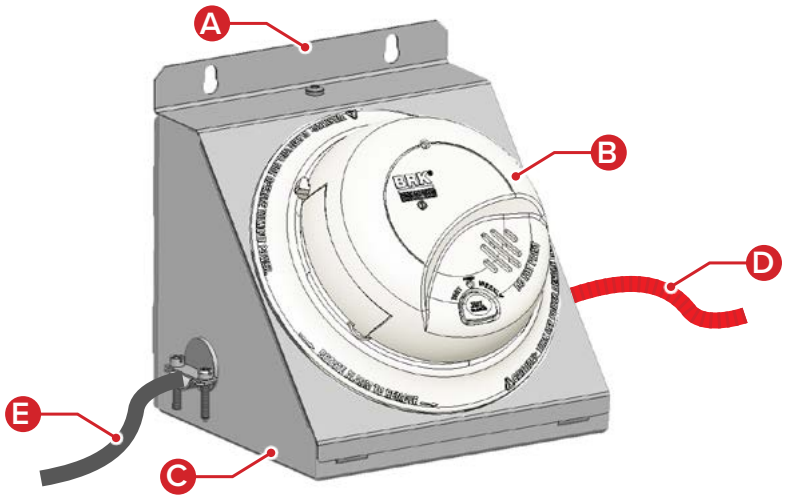


Fig. 2 - CO Boiler Interlock Assembly

6.4 Kit Connection

NOTICE

The following procedures apply to both PT and PA boiler types. Some illustrations represent one type or the other BUT the principles of installation are identical. Only when major differences are present will separate illustrations be provided to avoid any confusion.

6.4.1 Opening the Front Panel

⚠ WARNING

This procedure shall be performed by a qualified professional.

⚠ WARNING

ELECTRIC SHOCK HAZARD!

Ensure power to the boiler has been switched off prior to opening the unit. Make sure to turn off power to the unit at the main service panel then disconnect power supply to the appliance at the circuit breaker in the external electric box. Failure to do so can result in substantial property damage, serious injury, or death.

1. Turn off power to the unit by depressing the main switch located at the front of the boiler.

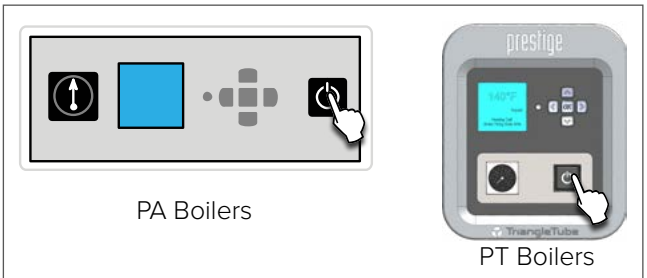


Fig. 3 - On-Off service switch

2. Disconnect power supply to the appliance with the relevant circuit breaker at the external electrical box.
3. Close gas supply at the main manual gas valve
4. Allow the unit to cool down for at least 15 minutes.

⚠ WARNING

If the boiler was in operation, some inner components are hot and require some time to cool down. This procedure requires to access locations close to components likely to be very hot after operation. Therefore, allow the boiler to cool down sufficiently and be careful not to touch any hot components, such as the heat exchanger or burner plate.

Failure to do so can cause severe burns.

5. Remove the front panel. See illustrations below.

PT Boiler

1. Remove the thumbscrew located on the upper edge of the unit.
2. Holding the panel by its sides, slightly lift the panel and pull away from the unit.

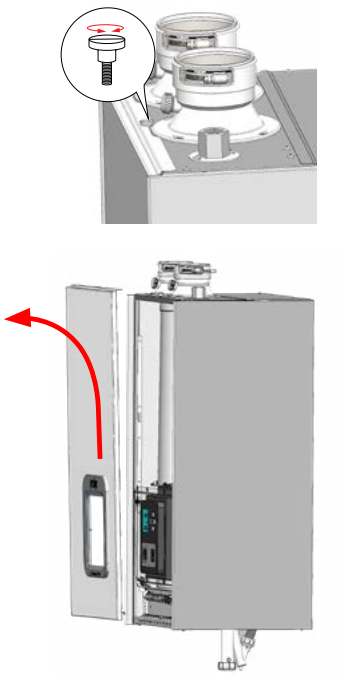


Fig. 4 - PT Boiler - Front Panel Removal

PA Boiler

1. Remove three screws from the bottom of the boiler
2. Holding the front panel by its sides, move the bottom of the front panel away from the boiler, then lift and disengage top ledge from cabinet rail.

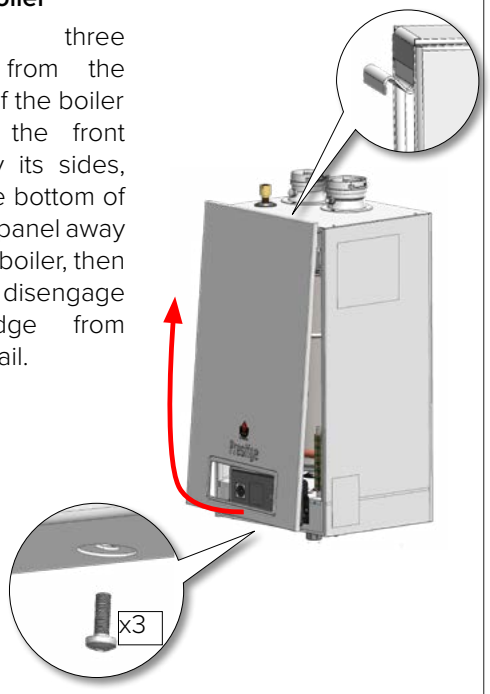


Fig. 5 - PA Boiler - Front Panel Removal

6.4.2 Power Supply Connection

NOTICE

The illustration below shows a PA boiler type. The principle of blower plug disconnection/ connection is the same for both PT and PA boiler types.

1. Disconnect the power supply plug from the blower (**2**).
2. Connect the large female connector (**4**) from the power supply harness to the disconnected blower plug.
3. Connect the large male connector (**3**) from the power supply harness to the blower (**2**) socket.

NOTICE

To make the connection easier, hold the connector with the green cable to the top as illustrated. This will ensure the correct connection if the blower socket is not visible.

4. Open one of the right side bottom knockouts of the boiler.

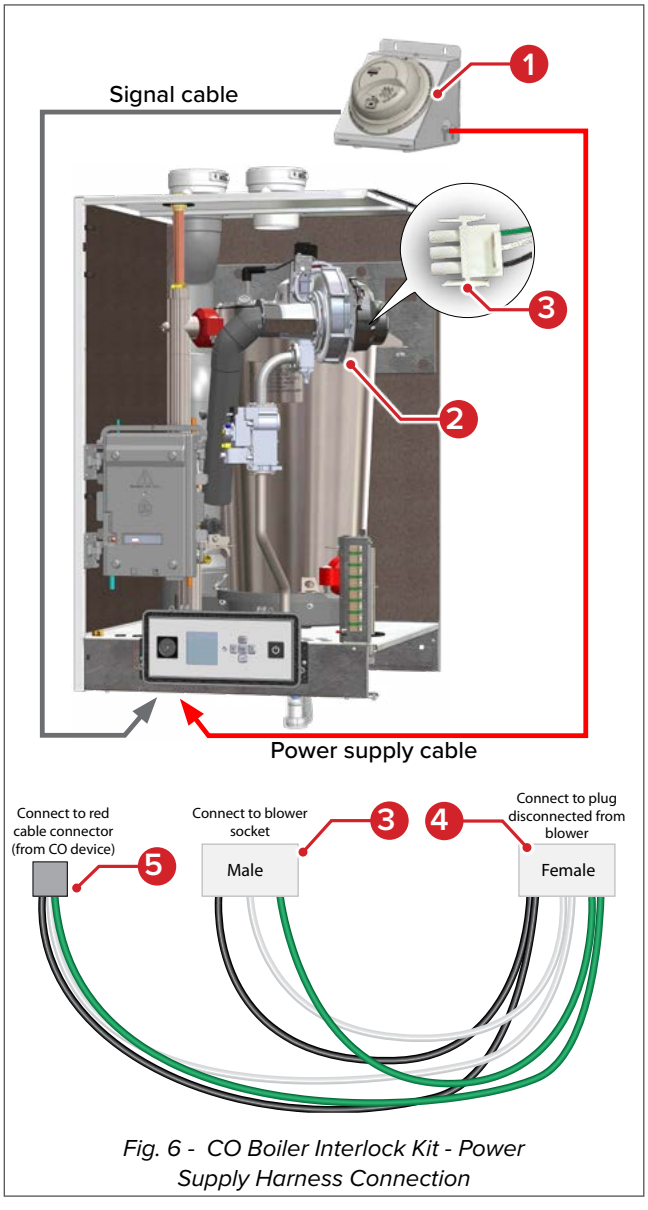
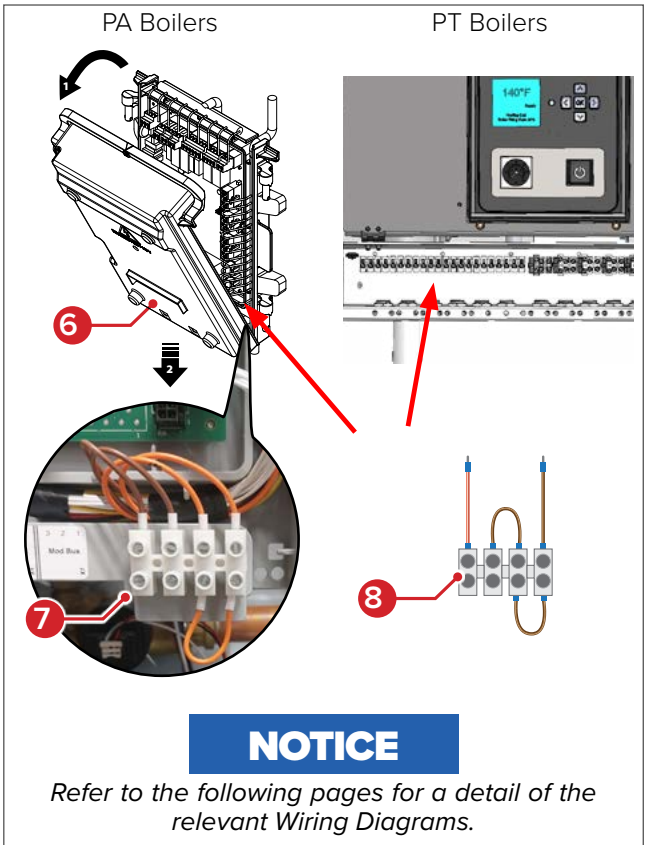


Fig. 6 - CO Boiler Interlock Kit - Power Supply Harness Connection

5. Route the free harness end (**5**) on the right side of the boiler, and down to the front.
6. Route the flex armored power supply cable of CO boiler interlock assembly (**1**) along the right side of the boiler and push up into the knockout until it locks in position.
7. Slightly pull on the cable to check it is secure.
8. Connect the small square connector (**5**) to the corresponding connector at the end of the flex armored CO boiler interlock assembly power supply cable.

6.4.3 Signal Connection

1. **On PA boilers only**, open the front cover of the control box (**6**) to access the required boiler terminal.
2. If any accessory is connected to the boiler, disconnect and install provided terminal block (**8**). Connect red and brown wires of signal harness as follows :
   - **PA boilers**: Manual Reset Limit terminal (**7**), pins 1 & 2
   - **PT boilers**: Manual Reset Limit terminal, pins 9 & 10.



NOTICE

Refer to the following pages for a detail of the relevant Wiring Diagrams.

Fig. 7 - CO Boiler Interlock Kit - Signal Harness Connection

3. To route the signal cable:
   - PT boilers: open one of the left side bottom knockouts of the boiler.
   - PA boilers: open one of the right side bottom knockouts of the boiler.

NOTICE

The bottom knock-outs of PA boilers are of two different sizes. Those on the left are too small for the provided cable glands. Therefore, only use the right side knockouts to route the CO boiler interlock assembly *signal cable.*

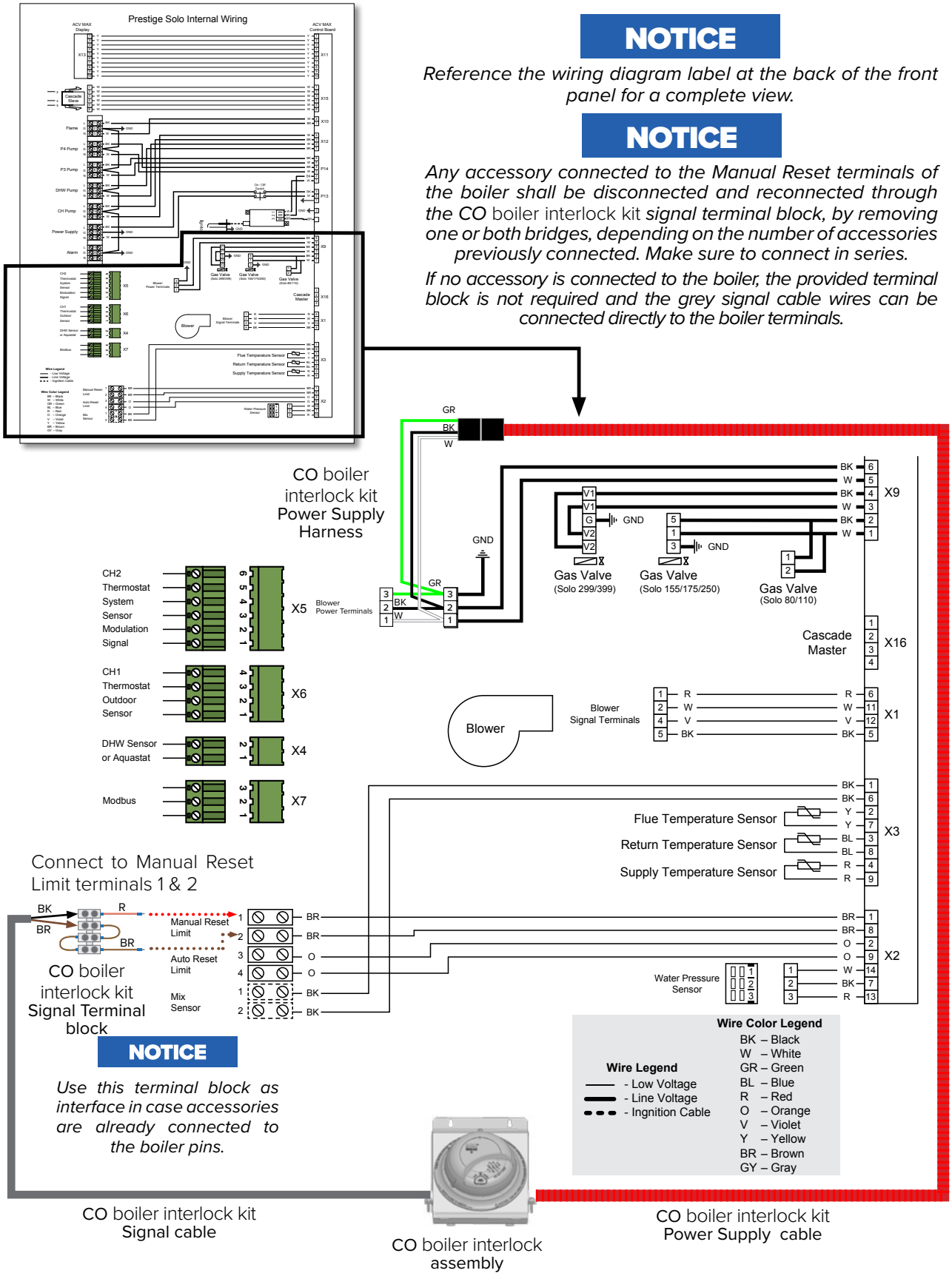


Fig. 8 - Prestige Solo PA Boilers - Where to Connect the CO Boiler Interlock Kit

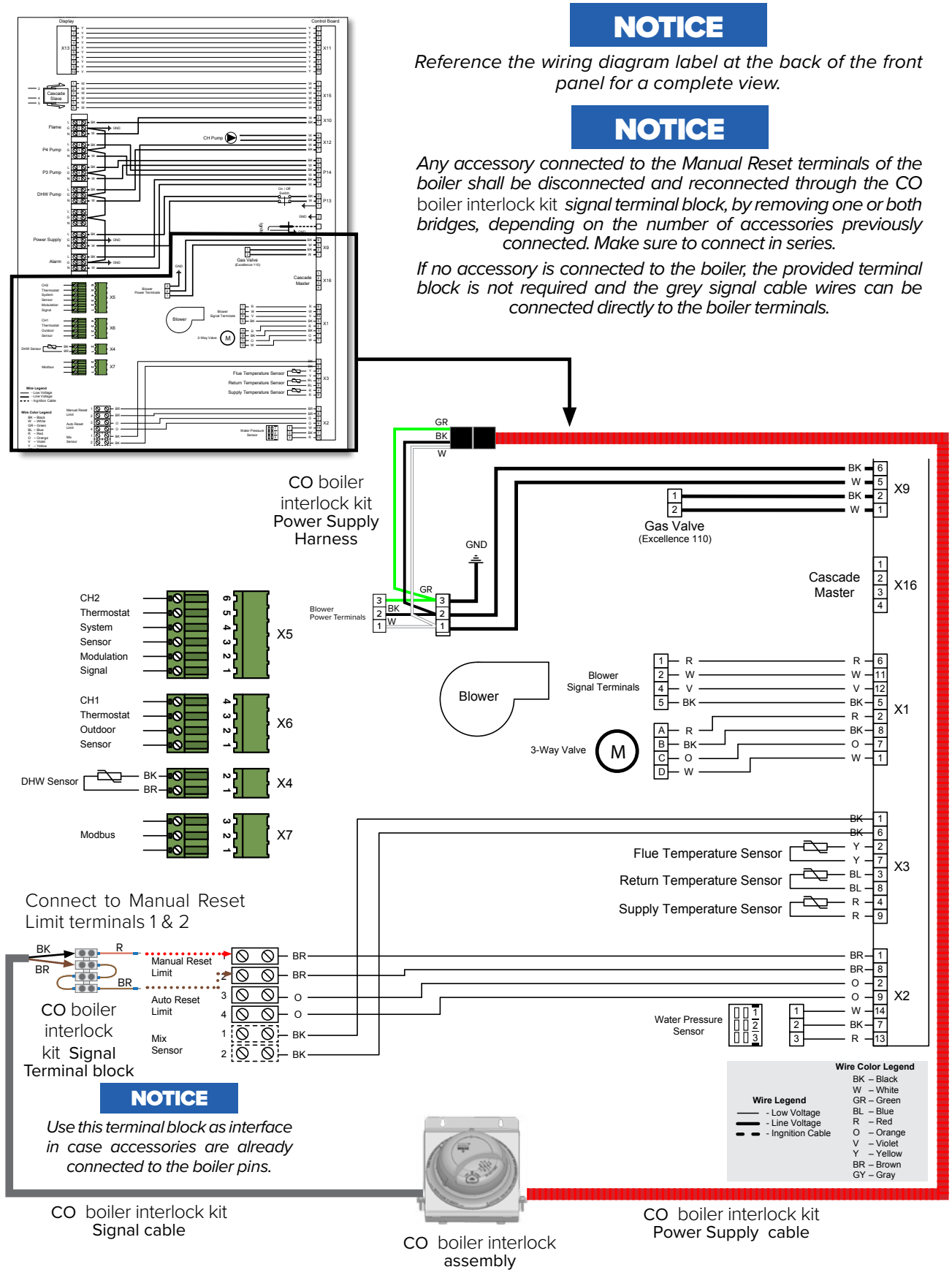
NOTICE

Reference the wiring diagram label at the back of the front panel for a complete view.

NOTICE

Any accessory connected to the Manual Reset terminals of the boiler shall be disconnected and reconnected through the CO boiler interlock kit *signal terminal block, by removing one or both bridges, depending on the number of accessories previously connected. Make sure to connect in series.*

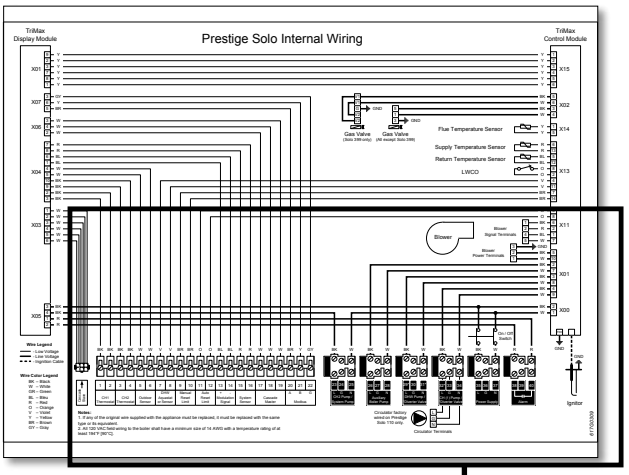
If no accessory is connected to the boiler, the provided terminal block is not required and the grey signal cable wires can be connected directly to the boiler terminals.



NOTICE

Use this terminal block as interface in case accessories are already connected to the boiler pins.

Fig. 9 - Prestige Excellence PA Boilers - Where to Connect the CO Boiler Interlock Kit



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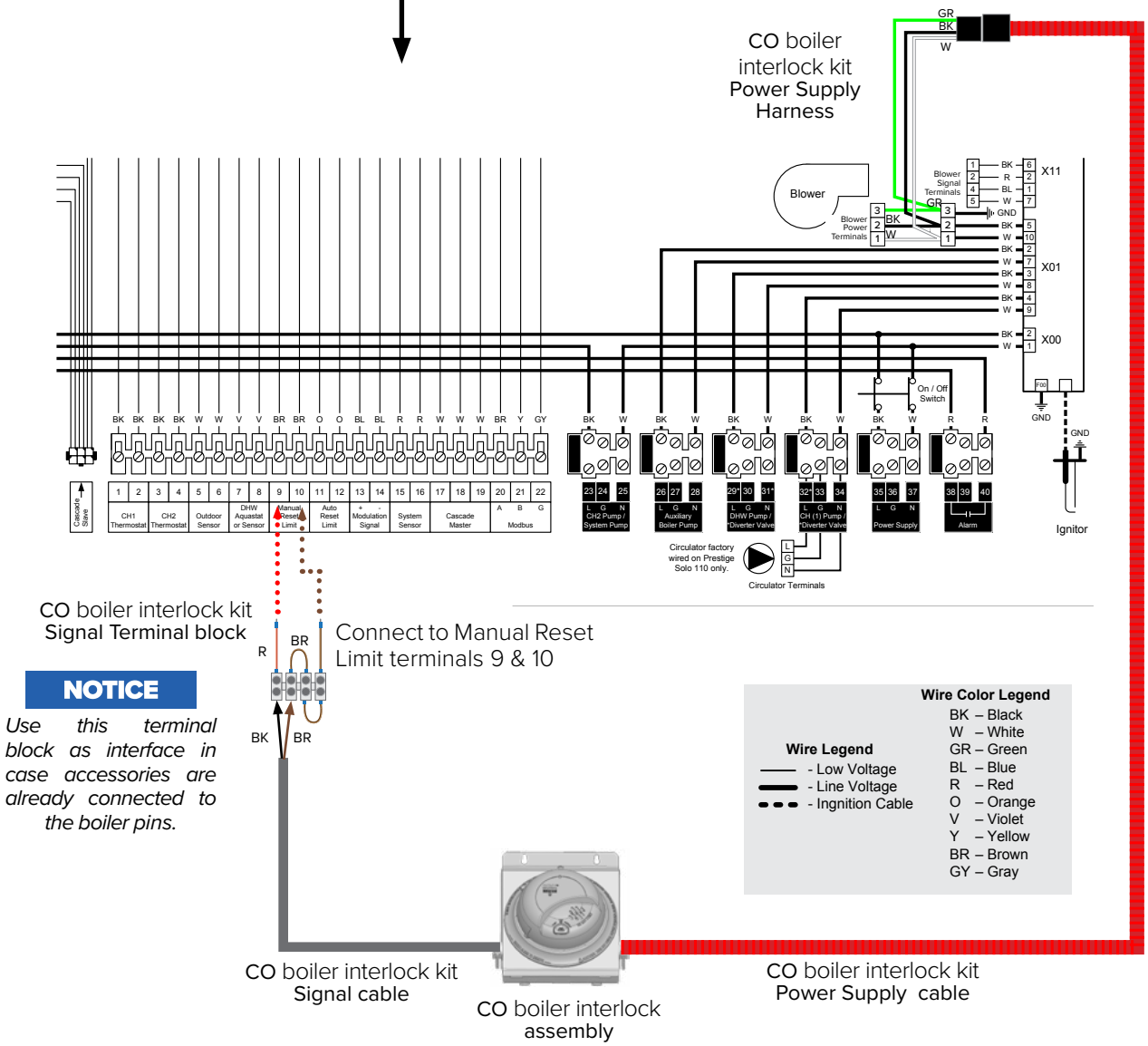


Fig. 10 - Prestige Solo and Excellence PT Boilers - Where to Connect the CO Boiler Interlock Kit

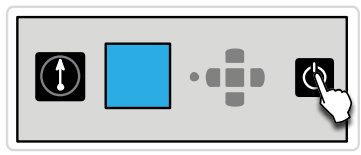
4. If necessary, adjust the position of cable gland on the cable, so that the length of cable inside the boiler is sufficient to connect to the signal harness terminal block.
5. Unscrew the cable gland nut from the cable gland body installed on the cable.
6. Route CO boiler interlock kit signal cable along the left side of the boiler and up into the boiler through the open knockout.
7. Secure the cable position by tightening the cable gland nut over the body.
8. Connect two ends of grey CO boiler interlock kit cable either directly to boiler terminals, or if installed, to the two free pins of CO boiler interlock kit signal harness terminal (*Fig. 7, ref.* **8**).
9. **On PA boilers only,** close the front cover of the control box (*Fig. 7, ref.* **6**).

6.4.4 Follow-on tasks

1. Check that all installed connectors are correctly plugged in and secure.
2. Arrange all newly installed cables inside the boiler so that they do not come into contact with hot components (e.g. burner plate or heat exchanger) and secure them when possible.
3. Perform a functional check. Refer to section *6.5.*

6.5 Functional Check

1. Restore power supply to the boiler at the breaker in the external electric box.
2. Open gas supply at the main manual gas valve
3. Turn the boiler on by depressing the ON/OFF service switch at the front of the boiler.



PA Boilers

PT Boilers

4. Make sure that the boiler fires up and that no alarm is displayed on the control panel.

NOTICE

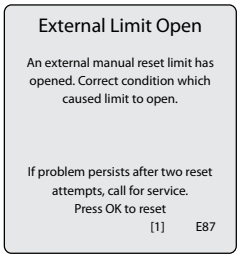
If the boiler does not start or an alarm is displayed, first check all newly made connections. If this action does not solve the problem, turn boiler off, close manual gas valve and disconnect power supply at the electric box, then contact Triangle Tube for assistance.

5. Check that the red indicator (**1**) on the CO boiler interlock device lights continuously.
6. Press and hold the test button (**1**) on the CO boiler interlock device cover until the horn sounds (4 beeps - **pause** - 4 beeps - **pause**). This will simulate the presence of CO and stop the boiler operation.

NOTICE

When the CO boiler interlock kit *alarm operates, combustion is interrupted and the boiler goes into lock mode, displaying an "External Limit Open" message on the screen. Manual reset is then required.*

7. Make sure that the boiler stops operating and that the screen below is displayed:



8. In case of test failure, check all connections. Replace unit as required.
9. Press the OK button on the front panel of the boiler. The boiler will resume its operation and fire up.
10. Check that the red CO boiler interlock device indicator lights continuously. It indicates normal operation.

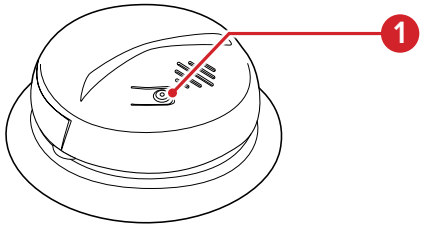


Fig. 11 - CO Device - Red Led and Test Button Location

7 - CO Boiler Interlock Device Operation

⚠ WARNING

THIS IS NOT A SMOKE ALARM! This Carbon monoxide (CO) boiler interlock device **is designed to detect carbon monoxide from ANY source of combustion. It is NOT designed to detect smoke, fire, or any other gas.**

This CO boiler interlock device **will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.**

This unit does not work without power. If the AC power fails, the battery back-up will power the alarm for at least 7 days provided the 9V battery is fresh and correctly installed. The battery alone will, however, NOT shut off the boiler in case of alarm.

NEVER ignore any alarm. See section *7.1.1* **for more information on how to respond to an alarm. Failure to respond can result in injury or death.**

7.1 Alarm features

7.1.1 Lights and Sounds - Normal Operation

Horn	Red led	Frequency	Meaning
—	ON	Continuous	Normal operation
ON	ON flashing	4 x - pause repeatedly	Alarm condition, CO detected See section *7.1.2*

NOTICE

For any other type of alarm occurrence, refer to 7.4 Problems and Solutions on page 11

7.1.2 In case of Alarm

⚠ DANGER

A byproduct of any gas fired appliance is carbon monoxide. Carbon monoxide (CO) can cause brain damage or death. Signs of carbon monoxide poisoning include nausea, headache, dizziness, drowsiness and lack of consciousness.

Actuation of any CO alarm indicates the presence of carbon monoxide (CO) which can kill you. When the CO device horn sounds, DO NOT ignore it!

NEVER disconnect the power to the CO boiler interlock device to silence the horn. Do not tamper with, modify or disconnect the CO boiler interlock device. Disconnecting the CO boiler interlock device removes protection!

Get fresh air if anyone shows signs of carbon monoxide poisoning. Call emergency services if required.

NOTICE

The user should be informed of the danger of CO poisoning and of the safety measures to be taken in such occurrence.

If any alarm sounds, the user shall:

1. Get out of the room,
2. Call emergency services,
3. Do a head count,
4. Open the door(s) and window(s) if any,
5. Call their installer to correct the situation and restart the boiler.
6. If the CO boiler interlock device was silenced by depressing the silence button, after the 4-minute silence cycle, the CO boiler interlock device re-evaluates CO levels and responds accordingly :
   - **If the alarm is silent for only 4 minutes, then starts sounding loudly** — 4 beeps, then a pause, 4 beeps, then a pause and the red LED on CO boiler interlock device body flashes along with the horn... ..**CO levels are still potentially dangerous.**
   - **If the CO** boiler interlock device **remains silent**.... unit has returned to normal operation.

7.2 Periodic Inspections and Maintenance

7.2.1 Annually

At boiler annual maintenance, the installer shall:

1. Perform a CO boiler interlock device test, to ensure its correct operation. Refer to steps 6 to 11 in ***paragraph 6.5.***
2. Remove any dust accumulated on the CO boiler interlock device body and base box.
3. Replace the 9V battery. Refer to Section *7.3* below.

7.3 Battery Replacement

The CO boiler interlock kit is delivered with a 9V battery, already installed in the body of the CO boiler interlock device. It is activated when the protective tab is removed, at the end of the installation process, and once the functional test is successfully performed.

7.3.1 Choosing a Replacement Battery

This unit requires one standard 9V alkaline battery.

NOTICE

Use only the alkaline or lithium replacement batteries. The unit may not operate properly with other batteries.

Never use rechargeable batteries since they may not provide a constant charge.

7.3.2 Replacing the Battery

1. Open the battery compartment (**1**) on the side of the CO boiler interlock device body.
2. Remove old battery and discard according to local regulations about batteries.
3. Install new battery and close the battery compartment (**1**).
4. Push and hold the test button (**2**) on the CO boiler interlock device cover until you hear an acknowledge chirp and the CO boiler interlock device horn sounds: 4 beeps, pause, 4 beeps, pause.

⚠ WARNING

If the unit does not alarm during testing, install a new battery and test again. If it still does not alarm, replace the CO device immediately

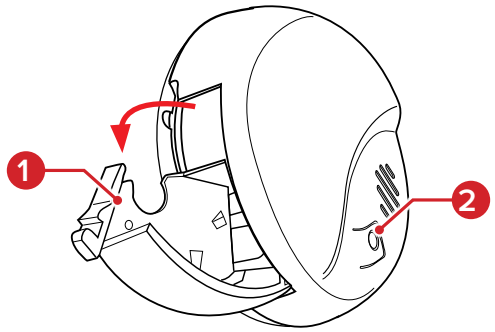


Fig. 12 - Opening the Battery Compartment

7.4 Problems and Solutions

Refer to *Table 1* below.

7.5 Follow-on Tasks

Make pictures of the installation once it is completed (CO boiler interlock assembly and cable connections).

1. Remove battery tab from CO boiler interlock device body to activate the battery .
2. Close the front panel of the boiler.

8 - Record and Report

8.1 Recording

1. Fill in the Record Form label (Refer to *Fig. 13*.) with all required information :
   - Fill in all data about the boiler
   - Check the boxes corresponding to the task(s) implemented with a date of completion.
   - Also indicate the expected CO device replacement date (CO device life : 10 years).

8.2 Labels

1. Affix the Record Form label to the front panel of the boiler

NOTICE

If no Record Form label is affixed yet to the front panel of the boiler, fill in the blank label provided with this kit, then affix to the front panel of the boiler.

If one is already present and has been filled in by another installer/company, proceed as indicated above and affix next to the first one with your details.

NOTICE

If one is already present that you/your company filled in previously, fill in the label present on the front panel with all the relevant information for this kit.

2. Affix the Monoxide Information label to the front panel.

Make pictures of both labels.

Table 1 - Troubleshooting

Problem...	Probable cause	Solution
Red light is OFF. Unit will not alarm when you press the Test/Silence button.	Unit may not be receiving any power.	Check the AC power supply. Make sure the power connector is securely attached to the CO boiler interlock device.
Red light flashes once a minute (horn is silent).	CO boiler interlock device is not receiving AC power.	Check the AC power supply.
Once a minute, the CO boiler interlock device horn sounds 3 “chirps”, and the red light flashes three times.	MALFUNCTION SIGNAL. Based on its Self Test diagnostics, the unit has detected a malfunction. The unit needs to be replaced.	If unit still isn’t functioning– REPLACE IT. Units under warranty should be returned for replacement.
The CO boiler interlock device horn sounds 1 “chirp”, once a minute	Low battery signal.	The battery should be replaced
CO CO boiler interlock device goes back into alarm 4 minutes after you press the Test/ Silence button.	CO levels are still potentially dangerous.	If anyone is feeling ill, EVACUATE immediately and call 911. Bring fresh air into the room, shut the boiler down and find the source of CO.
CO boiler interlock device horn sounds frequently even though no high levels of CO are revealed in an investigation.	The CO boiler interlock assembly may be improperly located.	Make sure that motor vehicles have not been operating in an attached garage or adjacent to the boiler room. If frequent alarms continue, have the home rechecked for potential CO problems. There may be an intermittent CO problem.

8.3 Reporting

1. Connect to the portal (https://r2rportal.triangletube.com)

2. Login to your account.
3. Open the Dashboard menu (located at the top of the screen) and select the current job.

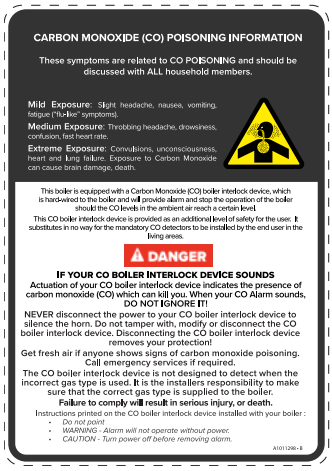


Fig. 14 - Carbon Monoxide Information Label

4. Fill in all requested information and upload the following pictures as evidence where required.
   - Installed CO boiler interlock device and harness
   - Carbon Monoxide Information label affixed to the front of the boiler.
   - Filled in Record Form Label affixed to the front of the boiler

NOTICE

- If you need assistance, you can call Triangle Tube freephone 877-574-5036 8 a.m. to 5 p.m. ET Monday through Friday or contact by E-Mail at productrecall@triangletube.com.

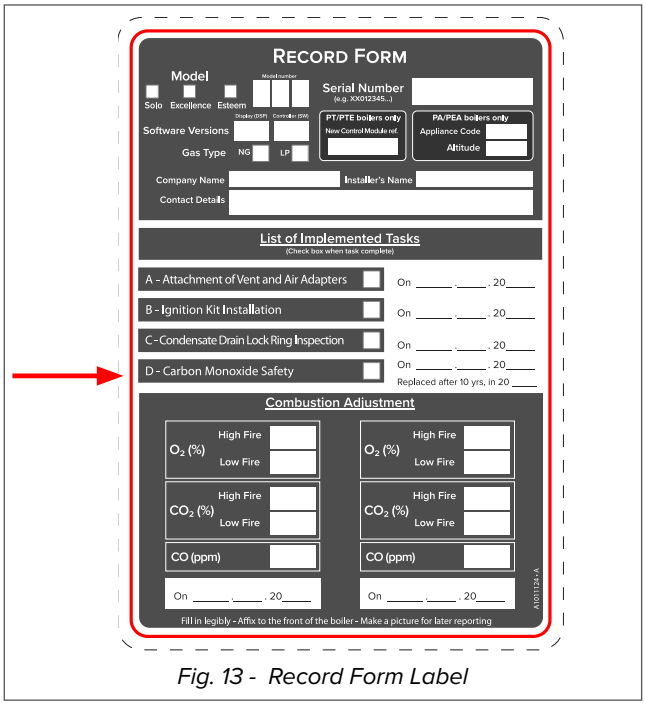
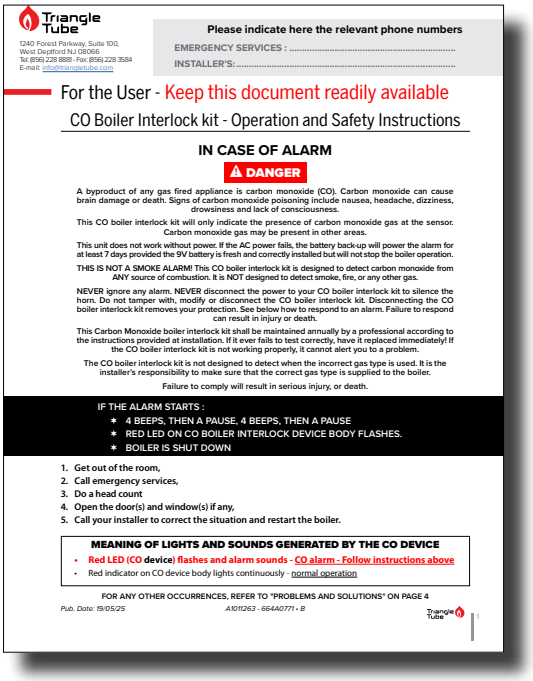


Fig. 13 - Record Form Label



9 - Informing the User

1. Explain to the end-user the operation of the CO boiler interlock device, the symptoms related to carbon monoxide poisoning and hand them over the Operation and Safety Instructions for the User (See opposite).

2. Inform the user that this CO Boiler Interlock Kit does not substitute for the mandatory installation of CO detectors in the living areas.