Baxi Bermuda

PW3, C3 & MW

Cat 1N

Gas Fireside Central Heating Unit

Installation and Service Instructions

Fire Section G.C. No's:

PW3 3707709
C3 3707710
C3W 3707720

These instructions must be read in conjunction with the separate instructions for the Boiler Section.

The fire maybe used with the following boilers:

Bermuda 401 GC No: 44 077 49
Bermuda 552 GC No. 44077 50

Baxi Bermuda PW3, C3 & C3W

Fire Section - Cat 1N

Installation Instructions

INTRODUCTION

This unit is the gas fire section of the Bermuda PW3, C3 and C3W central heating boiler and gas fire. The heat input is 4.4kW (15,000 Btu/h) and the fire is available for use with Natural Gas only.

The fire is controlled by a knob on the right hand side of the case. Ignition is by piezo unit, operated by turning the control knob to position 4. The control knob has five positions, giving a choice of four output rates.

Position 0-Fire off.
Position 1--Centre radiants on low, outer radiants off.
Position 2-Centre radiants on high, outer radiants off.
Position 3-Centre radiants on high, outer radiants on low.
Position 4-Centre radiants on high, outer radiants on high.

SITE REQUIREMENTS

The principal site requirements are determined by the boiler but the following details are essential for the correct installation of the fire:

Fireplace Opening (Fig. 3)

	Minimum	Maximum
Width	406 mm (16 in)	584 mm (23 in)
Height	560 mm (22 in)	

Wherever possible always make the fireplace opening to the maximum dimensions.

Surround or Wall Finish

A vertical flat area centrally placed about the opening measuring a minimum of 660mm (26in) high for the PW3 &C3 and 675mm (26 1/2in) for the C3W by 860mm (34in) wide is required.

Remove any combustible material round the fireplace opening to 600 mm (23 5/8in) wide x 610 mm (24 in) high and make good with non-combustible material.

Wall fixing (Fig. 4)

The bottom of the fire i.e. the hearth on which the boiler rests should be 100 mm (4 in) to 125 mm (5 in) above the floor level. It is strongly recommended that the fireplace opening is made to the maximum dimensions.

A shelf may be fitted above the fire provided that it does not exceed 230 mm (9 in) deep and it is at least 76 mm (3 in) above the top of the fire.

INSTALLATION

1. The gas supply is provided from the service tap on the boiler unit. A supply pipe is supplied with the fire. This pipe has one flared end for connection to the fire and a plain end which is connected to the service tap unit by a nut and olive.

2. Dependent upon the position of the boiler relative to the surround or wall finish face it may be necessary to shorten the supply pipe.

IF THE PIPE HAS TO BE SHORTENED CARE MUST BE TAKEN.

The length of the supply pipe is determined as follows:

(a) Measure the distance from the centre of the front positioning 'V' notch on the boiler tray, back to the surround face or finished face (Fig. 5).

(b) FROM THE PLAIN END of the supply pipe cut off a length of pipe equal to the distance 'D' measured above. Take care to ensure that the cut is square and free from burrs and swarf.

ALTERNATIVELY

(c) The amount of pipe required to be cut off can be determined by holding the PLAIN END of the pipe against the surround or wall finish face, marking the pipe at the position of the centre of the front positioning 'V' notch on the boiler tray.

3. After threading the steel flare nut on the above pipe, connect the plain end to the service tap with the nut and olive. It is important to ensure that the flared end of the pipe.

(a) faces to the right.
(b) is parallel with the hearth or floor.

FITTING THE FIRE

Fit the fire securing brackets to the fire backing plate using two of the four No. 8 x 3/8in self-tapping screws provided and the centre holes in the brackets-the projection of the brackets to the inside. Fit the backing plate to the fire using the two M5x8mm thread forming screws (Fig. 7).

1. Hearth Fixing

(a) Locate the fire spigot into the draught diverter on the boiler. Push the fire backwards until the backing plate touches the surround or finished wall face.

(b) Adjust the levelling screws to level the fire (Fig. 8). Mark the position of the four securing holes in the backing plate on the surround or wall face, and remove the fire.

(c) Drill and plug the wall, replace the fire and screw the backing plate to the wall with the four screws provided, two screws through the securing bracket.

(d) Connect the gas supply pipe to the fire inlet connection.

2. Wall Fixing

(a) Slide the fire support plate under the overhanging boiler base. Using the nuts, screws and washers provided, loosely attach the plate using the centre holes of the group at each side. If the fire is being used with the Bermuda 401 boiler use the support brackets supplied with the boiler. Push the support plate backwards until it touches the wall surface and tighten the screws to lock the frame in position.

(b) Locate the fire spigot into the draught diverter on the boiler. Push the fire backwards until the backing plate touches the surround or wall surface.

(c) Adjust the levelling screws to level the fire (Fig. 8). Mark the position of the four most suitable securing holes in the backing plate on the surround or wall surface, and remove the fire.

(d) Drill and plug the wall, replace the fire and screw the backing plate to the wall with the four screws provided, two screws through the securing brackets.

(e) Connect the gas supply pipe to the fire inlet connection.

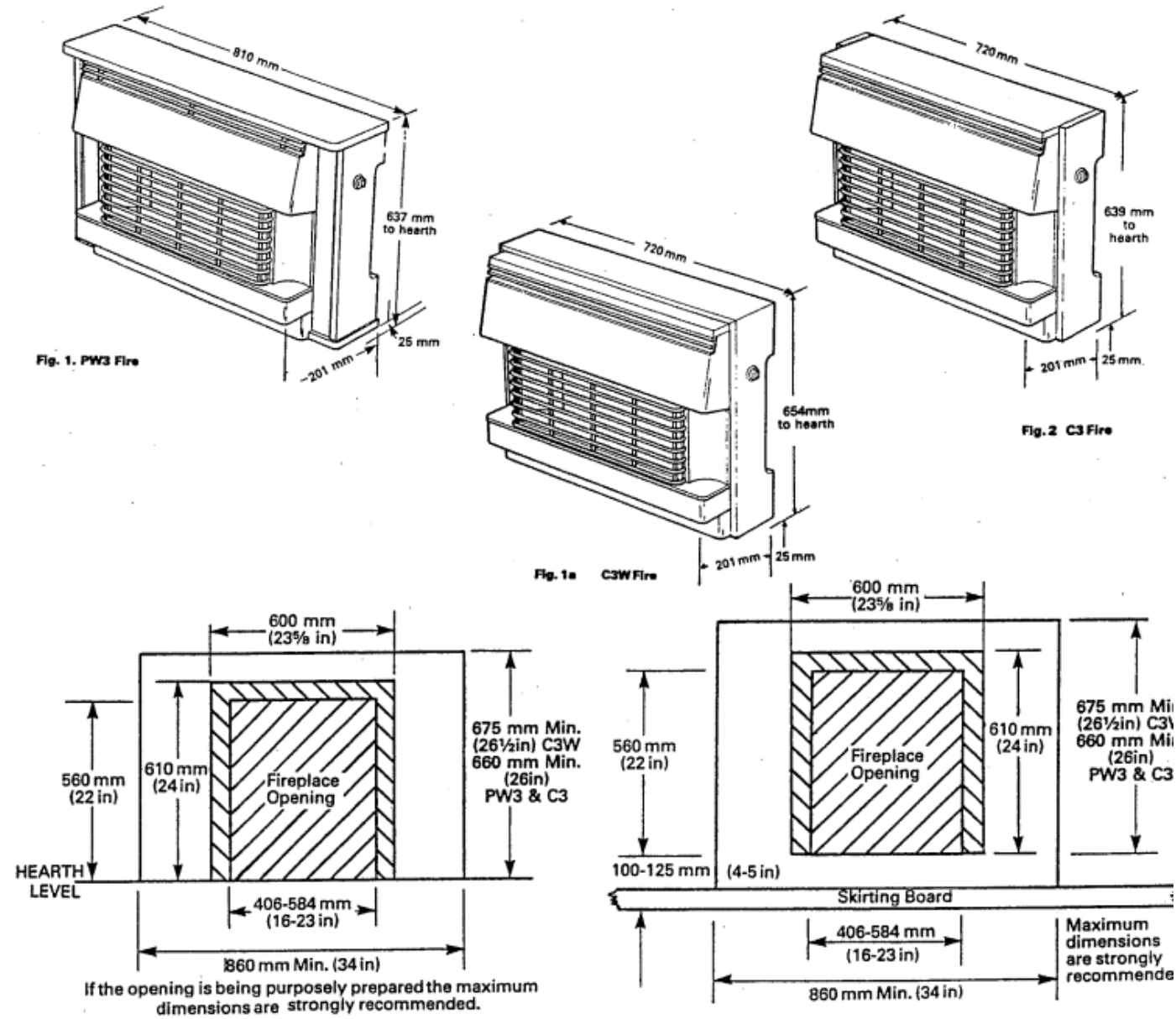
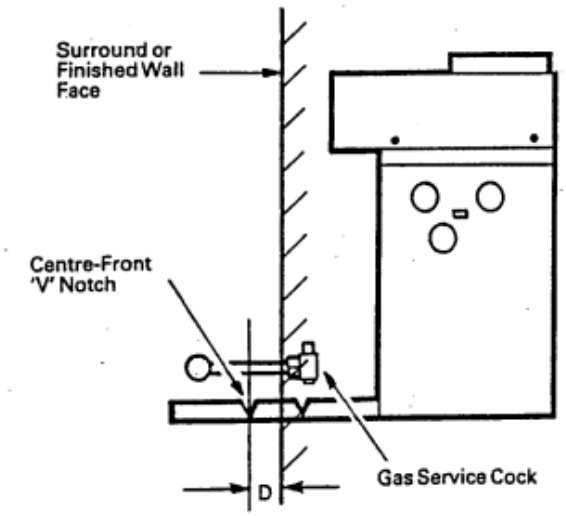


Fig 1,2, & Fig. 3. Fireplace Opening & Fig. 4. Wall Fixing



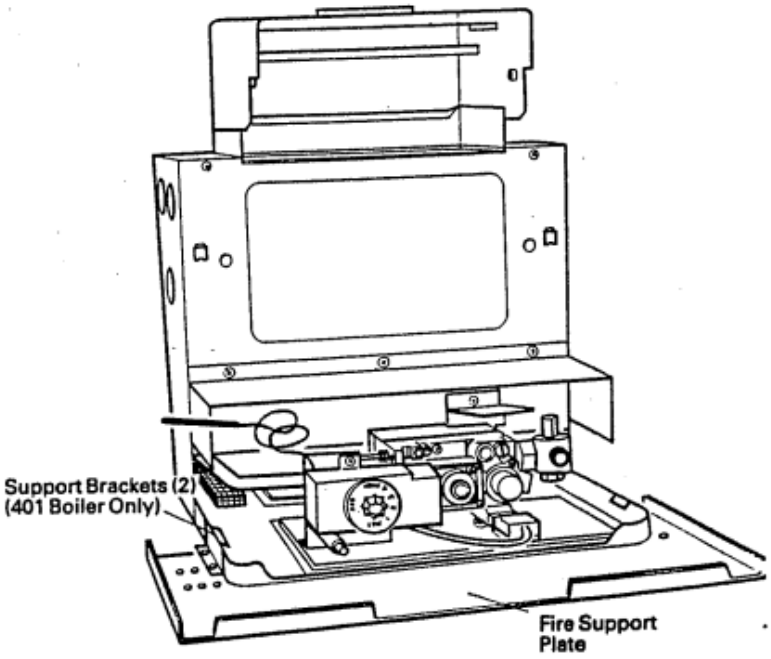


Fig. 5 Gas Supply Pipe, Fig. 6 Wail Fixing-Support Plate

Commissioning the Fire

1. Remove the pressure test screw on the fire control tap and connect a pressure test gauge. (Fig. 8).

2. Turn the service tap (at present supplying gas to the boiler only) 1/4 turn anti-clockwise. The service tap is now supplying both the boiler and the fire. (Fig. 9).

3. Purge the air from the, gas supply pipe and check for gas soundness.

4. Push in the control knob and turn anti-clockwise to position 4. Check that the ignition is satisfactory.

5. Check the fire pressure with the control knob in position 4. The pressure should be 17.2 mbar±1 mbar (6.9 in w.g.±0.4 in w.g.).

6. Turn the fire off, remove the pressure gauge and refit the pressure test point sealing screw.

7. Fit the radiants.

8. Test for clearance of flue products: (Fig. 6A)

(a) Ensure that all doors and windows are closed.

(b) Turn the fire fully on.

(c) After 5 minutes insert a smoke match into the smoke tube at the left hand side of the fire leaving 3mm of the match below the tube.

(d) No smoke emerging from the side hole indicates clearance. When the burning portion of the match reaches the bottom of the tube, remove the match. Smoke emerging from the side hole indicates spillage and the test must be repeated after a furthers minutes.

If the fire does not clear its products, further investigation must be carried out.

(e) Turn the boiler fully on:

(f) After 5 minutes insert a smoke match into the boiler draught diverter. Ensure that most of the smoke is drawn into the flue. If the boiler does not clear its products, further investigation must be carried out.

Important note: If there is a fan in the room or adjoining room then the spillage test must be repeated with the fan turned on and any interconnecting doors between the fan and the appliance left open.

9. Remove the control knob and fit the outercase. Secure the outercase to the innercase using the securing screws provided in the accessories pack and refit the control knob. (Fig. 8)

10. Fit the controls cover panel.

11. Hand the user the User's Instructions and explain the use of the boiler and fire and leave the unit set to their requirements.

12. Leave the installation and servicing instructions with the user or at the service meter.

Heat Input	4.4 KW (15,000 Btu/h)
Gas Group	N
Injector Size	170S
Setting Pressure Cold	17.2 mbar ±1
	6.9 in w.g. ±0.4

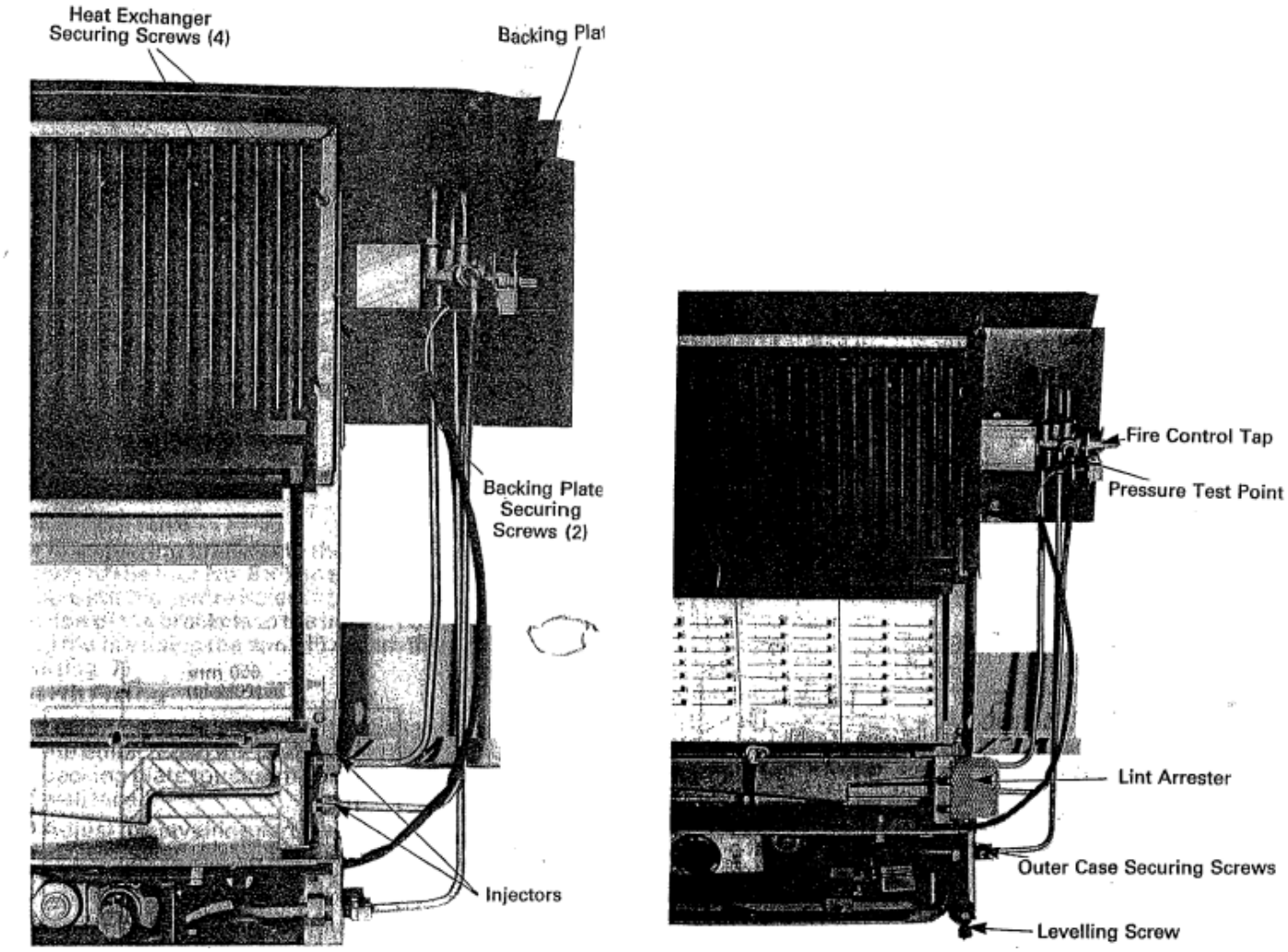


Fig. 8.

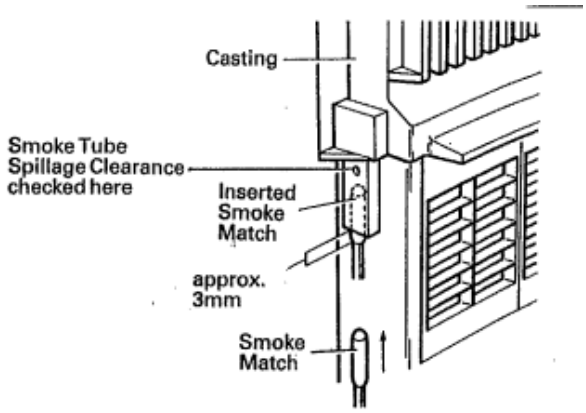
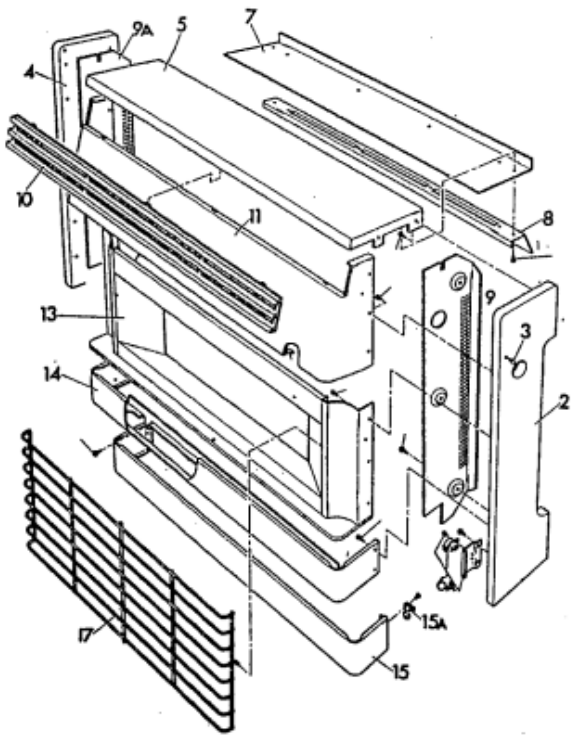
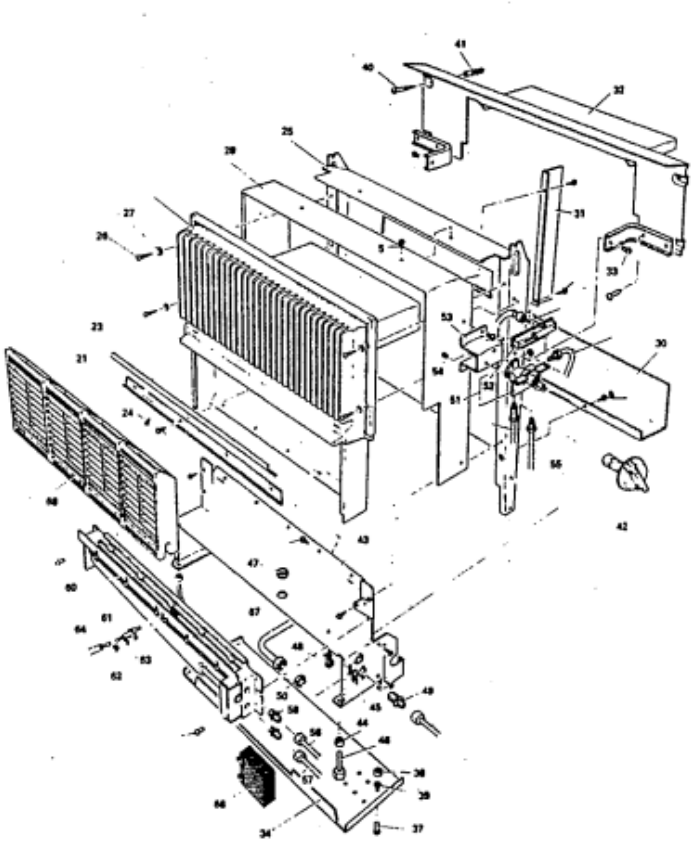


Fig. 6A Test for clearance of Flue Products

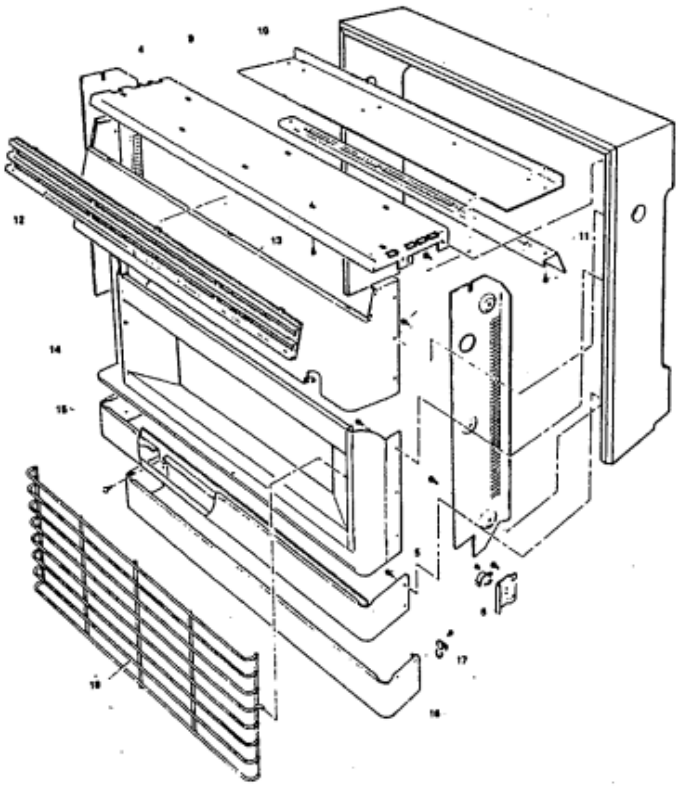
Exploded Diagrams Bermuda PW3, C3 & C3W



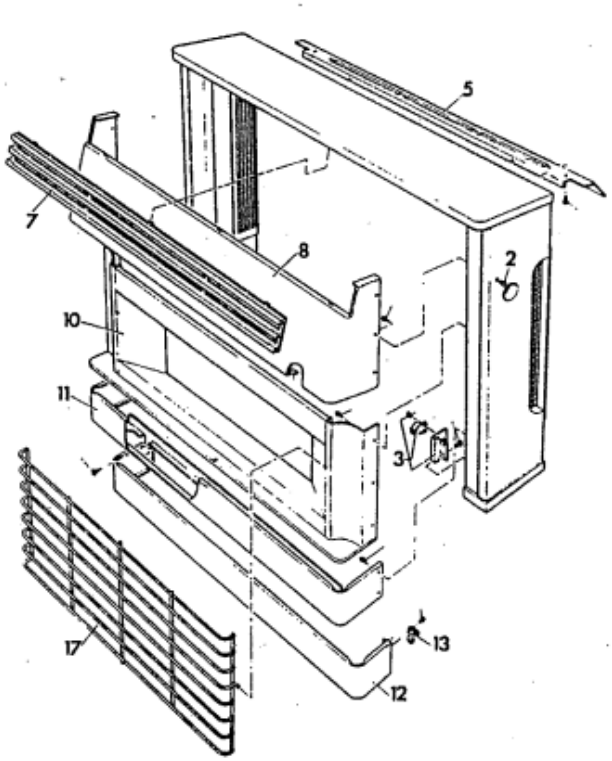
Bermuda C3 Outer Case



Heat Exchanger Bermuda C3W



Bermuda C3W Outercase



Bermuda PW3 Outer Case

Lists of parts are available on request

Servicing the Fire

Instructions 1-16 are for maintenance to be carried out annually and should be followed in conjunction with the separate instructions for the boiler section.

1. Remove the controls cover panel under the front of the fire by grasping it firmly by its side edges and pulling forwards.

2. Turn the service tap off by turning anti-clockwise (Fig. 9).

3. Remove the outercase as follows:

i) Pull off the control tap knob.

ii) Remove the two outer case securing screws (Fig. 9).

Remove the case by easing the lower edge forward and upward.

N.B. Remove the radiants and place safely to one side.

4. Disconnect the fire supply pipe from the fire inlet and remove the two screws securing the backing plate to the inner case. Pull the fire forward until the flue spigot is clear of the boiler canopy and lift away.

5. Pull the lint arrester from the burner and remove all traces of dust or lint. (Fig. 8).

6. Remove the burner as follows: (Figs. 11 & 10).

i) Disconnect the compression nuts from the injectors.
ii) Disconnect the electrode lead from the electrode. Disconnect the electrode from the burner.
iii) Remove the two screws securing the burner and remove the burner.
v) Using a soft brush remove all deposits from the top of the burner, the burner ports and the spark electrode.

7. Unscrew the injectors from the end of the burner and clean or replace as necessary. NOTE: Injectors must not be cleaned with a needle or wire.

8. Refit the injectors, electrode, burner and electrode lead ensuring that the glass fibre sleeve is correctly fitted over the ceramic insulation on the electrode.

9. Check that the spark gap is correct i.e. between 3 and 4 mm. (Fig. 12).

10. Fit the fire to the boiler and refit the screws securing the fire backing plate to the inner case. Connect the fire supply pipe to the inlet adaptor.

11. Turn the service tap ON by turning 1/4 turn clockwise. (Gas to boiler and fire). Check for gas soundness by using suitable soap solution.

12. Refit the radiants.

13. Fit a pressure gauge to the pressure test point on the control tap and check the fire working pressure. (the data label for pressures).

14. Remove the pressure gauge and refit test point sealing screw and the lint arrester.

15. Refit the outer case, control knob, outer case securing screws and controls cover plate.

16. Check that the ignition is satisfactory.

Exchanging Components

The following components can be removed as described below:

Replace all components in the reverse order of dismantling. After replacing any components always test for gas soundness.

Disconnect the fire and remove the outer case as described in 1-4 inclusive of 'Servicing the Fire'.

1. Gas Control Tap (Fig. 13)

To grease the tap proceed as follows:

Pull off the black plastic cap and then the spark electrode lead from the piezo unit and undo the two set screws and washers securing the niting plate to the tap body.

Remove the piezo unit complete with the gas tap spindle and spring. Now remove the plug and apply a suitable grease. On re-assembling, care must be taken to ensure the correct replacement of both plug and spring.

To exchange the component: (Fig. 11)

Pull off the black plastic cap and spark electrode lead from the piezo unit and remove the pipes connected to the tap using a 13 mm spanner. Undo the two screws securing the tap mounting bracket to the inner case assembly.

Now undo the two screws securing the tap to the tap mounting bracket and remove the tap.

On re-assembly ensure that the spark electrode lead is correctly fitted and that the black plastic cap is pushed on to the piezo unit and the glass fibre sleeve fits over the end of the electrode. (Fig. 11).

2. Burner

Pull the lint arrester away from the burner (Fig. 8). Pull back the glass fibre sleeve and remove the spark electrode lead from the spark electrode. Undo the compression nuts from the injectors and the two screws securing the burner. (Fig. 10).

Slide out the burner and remove the electrode and injectors from the burner (Fig. 7 & 11).

3. Spark Electrode

Pull back the glass fibre sleeve and remove the spark electrode lead from the spark electrode.

Remove the electrode from the burner. (Fig. 11).

On re-assembly ensure that the spark gap is between 3 and 4 mm and that the glass fibre sleeve is correctly fitted over the ceramic insulation on the electrode. Ensure that the electrode lead is replaced in the retaining clip and that the black plastic cap is pushed on to the piezo unit. (Fig. 12).

4. Heat Exchanger

Remove the fire from the boiler as described in 1-4 inclusive of 'Servicing the Fire'. Remove the heat exchanger, burner and controls as follows:

i) Remove the 11 screws securing the burner and controls assembly to the heat exchanger and remove the assembly from the inner case. (Fig. 10).
ii) Remove the four screws securing the heat exchanger to the inner case and remove the heat exchanger. (Fig. 7).
iii) Remove the two screws securing the radiant restrictor to its mounting plate. (Fig. 10).
iv) Remove the four screws securing the mounting plate to the heat exchanger assembly. (Fig. 10).

5. Piezo Unit (Fig. 13)

Pull off the plastic cap and spark electrode lead from the piezo unit. Undo the tabs on the rear of the piezo unit and remove.

Replace the piezo unit twisting the tabs to retain it and replace the spark electrode lead and plastic cap.

Ensure that the glass fibre sleeve is correctly fitted over the end of the electrode and the black plastic cap is pushed on to the piezo unit.

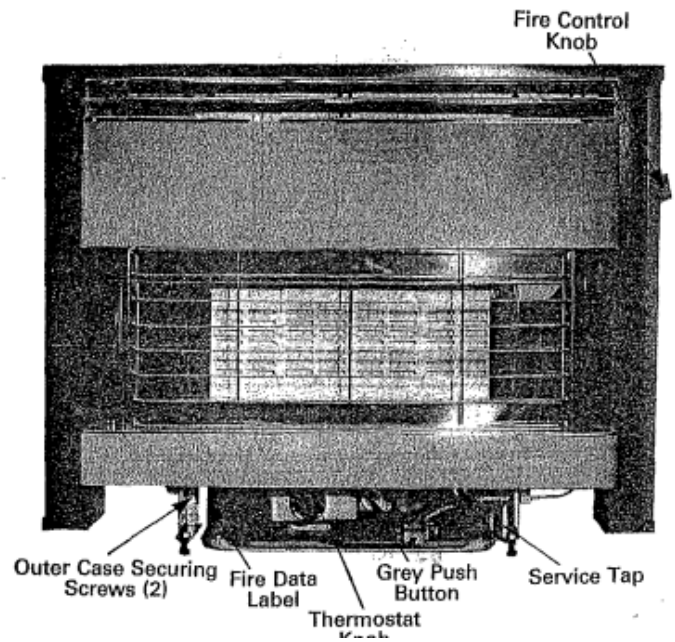


Fig. 9. Outer Case

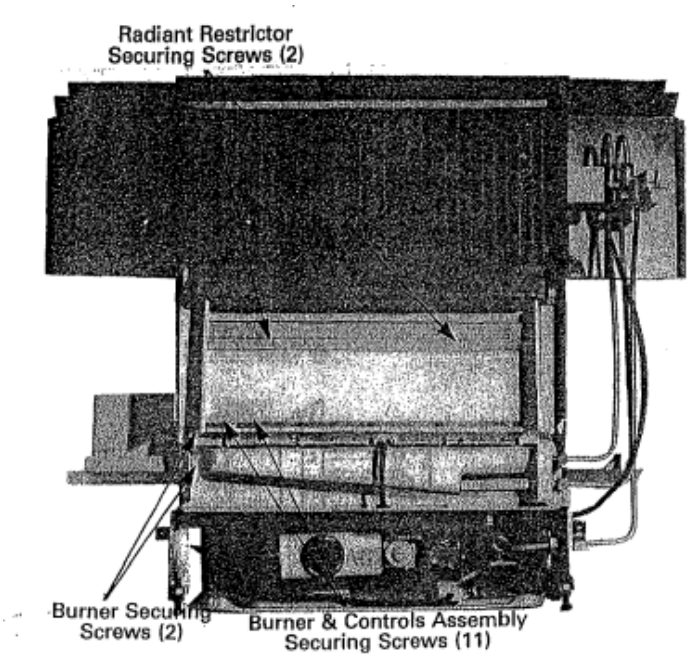


Fig. 10. The Burner

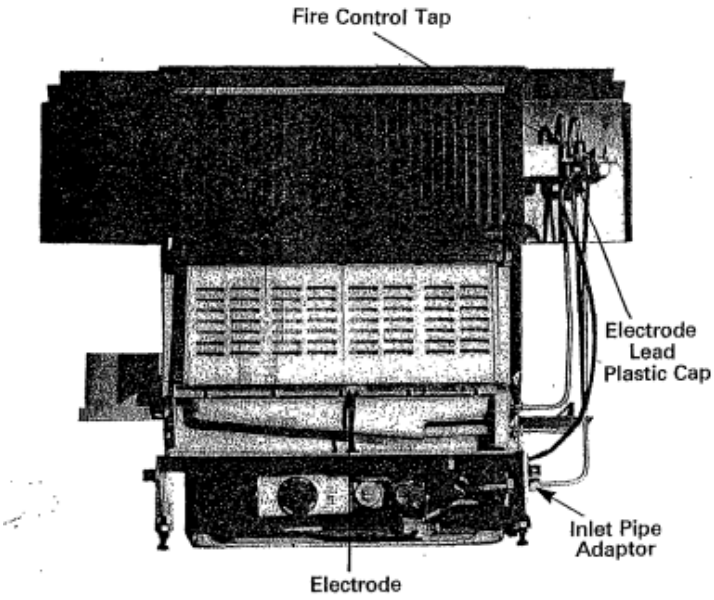


Fig. 11. The Controls

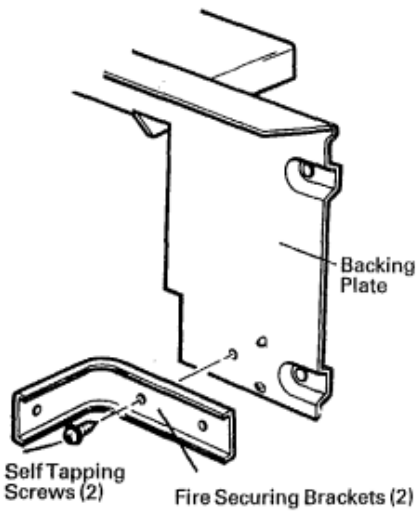


Fig. 7. Backing Plate

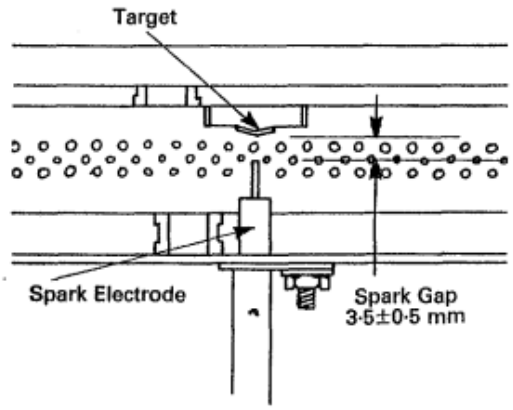


Fig. 12. Spark Gap

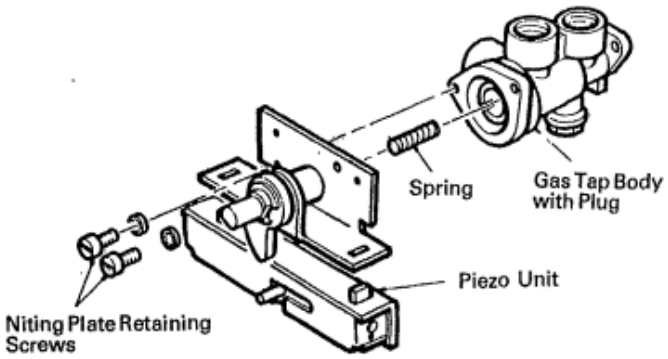
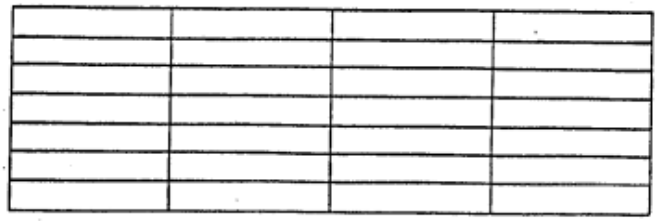


Fig. 13.



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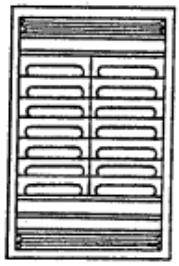

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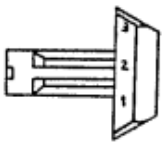

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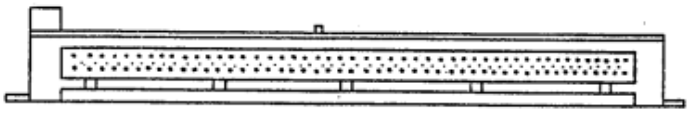

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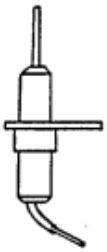

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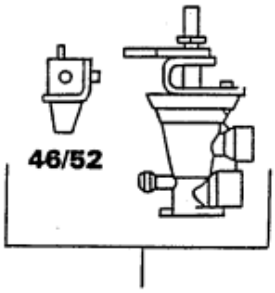

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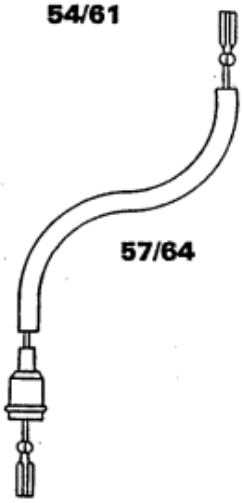

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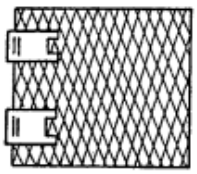

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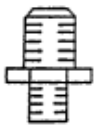

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Baxi Bermuda PW3, C3 and MW
G.C. Numbers 37 077 09,37 07710 and 37 077 20
Short Parts List

Key C3W	No. PW3/C3	G.C. No.	Manufact. Part No.	Description
18	17	155 693	043036	Dressguard
42	36	155 715	043037	Knob-Gas Tap Control C3
		155 697	043042	PW3
			226256	Knob-Gas Control C3W
51	45	384 623	042872	Tap-Fire Control and Piezo Unit.
52	46	393 734	042941	Piezo Unit-Ventitron 66111
58	52	155 704	043034	Injector-170S
60	53	155 653	043016	Burner

61	54	384 218	043026	Electrode-Ignition
64	57	155 705	043041	Lead-Electrode
66	58	183 619	040799	Arrester-Lint
68	59	155 655	043025	Radiant