

Section 11.

Commissioning, Service and Maintenance

11.1 Commissioning Procedure

11.2 Servicing and Maintenance

11.3 Baffle Design and Positioning

11.4 Fault Finding

11.5 Commissioning Data

11.1 Commissioning Procedure

Grandee boilers must be commissioned by a qualified heating engineer, preferably OFTEC registered. This is the responsibility of the installer and failure to do so may nullify the manufacturers warranty.

Supplied with each boiler is data relating to the commissioning figures. These indicators are those which the commissioning engineer must use. From time to time technical advances or specifications of components progress perhaps beyond the publication of this manual. At the time of print typical combustion figures are as indicated in the table on page 55.

- a). Check that the boiler and system are full of water and that valves are open.
- b). Check that flues, inspection doors and all flue and water connections are sound.
- c). Check that the electrical connections are correct and that the supply is properly fused with a 5 amp fuse.
- d). Check that adequate combustion air is available and that, on balanced flue models, there are no blockages in the flue pipe or air inlet duct.
- e). Check that baffles are correctly positioned inside the heat exchanger. Usually they are stuck in position with silicone at the factory to minimise movement during transit. The silicone will soon burn off.
- f). Bleed oil to ensure that oil is running freely without air locks. A purpose supplied nipple and short hose are fitted to the oil pump for the commissioning engineers convenience. Grandee wall appliances are supplied with a clear flexible oil hose to the burner so that evidence of air (i.e. bubbles) is immediately apparent. This oil line should be fully charged with oil and free from air. If air is present check that all joints on the oil line are properly sealed until air is **totally** removed.
- g). Check that the time clock or programmer is set on.
- h). Turn the operating thermostat so that the boiler calls for heat and the boiler should switch on. It is possible for air trapped in the oil line or oil pump to cause initial locking out until all is purged. Wait at least one minute before pushing the illuminated reset button on the

control box to allow the control sequence to be completed.

i). When the burner has operated at least 20 minutes check the readings and compare with commissioning data. Adjust as necessary. Conventional flue models have a test point on the flue collar. This testing can only be conducted with a professional testing kit. These settings are approximate allowances for tolerances of nozzle, oil pump and fan motor may necessitate adjustment. It is not normally necessary, however, to adjust the oil pump pressure which is factory set.

j). Check the heating system and bleed to remove air.

k). Remove operating thermostat phial from its pocket to test the working of the protective high limit thermostat.

l). Complete the Commissioning Report supplied with the boiler and return to the manufacturer.

11.2 Servicing & Maintenance

Grandee boilers should be routinely serviced at least once a year

If Gas Oil is used then more frequent servicing may be necessary.

- a). Carry out combustion checks before servicing to compare against commissioning data.
- b). Switch off electrics.
- c). Inspect boiler generally looking for breakages or leaking pipes, flues or inspection doors. Check for tell tale signs of smoke discolouration.
- d). Make sure the boiler is cool before dismantling to prevent accidental burning.
- e). Remove burner carefully and replace nozzle.
- f). Check the position of the ignition electrodes and clean thoroughly. Also check for cracks in the ceramic insulation sleeves. Replace if damaged or suspect.
- g). Clean photo cell.
- h). Check that all wires are firmly fixed and that there are no loose connections.
- i). Check oil hose for leaks and replace if necessary.
- j). Make sure that the burner and fan impeller is thoroughly clean and that any debris or lint is removed.
- k). Remove inspection doors to heat exchanger and lift out baffles. Replace if badly distorted or worn.



l). Make sure heat exchanger is thoroughly clean and that any debris or soot is brushed from surfaces and vacuumed.

m). Re-assemble carefully and double check that all parts and inspection doors are replaced properly.

11.3 Baffle Design and Positioning

See illustration adhered to the inside of the boiler casing. Failure to fit baffles correctly can cause boiler failure and significantly reduce efficiency.

11.4 Fault Finding

1. Burner will not fire

Possible Cause	Remedy
Programmer switched off	Switch on
Electric supply interrupted	Check fuse Check mains supply
No oil	Fill tank Check valves are open and oil line is clear Check fire valve
Faulty control box	Replace
Photo cell not fitted correctly	Fit properly
Control box in 'lock-out' mode	Press the illuminated reset button
Burner motor seized	Loosen or replace

2. Burner starts but fails to establish

Oil supply interrupted	Check oil tank Check for blocked oil filter and oil supply Check oil grade Check fire valve
Trapped air in oil line or pump	Bleed oil through oil pump, pump into a container till air is removed
No ignition	Check electrodes Check ignition transformer
Blocked nozzle	Replace
Faulty oil solenoid valve	Replace

3. Burner locks out after flame established

Water in oil	Drain water from storage tank
Wrong grade of oil	Check grade

Possible Cause	Remedy
Photo electric cell faulty or dirty	Clean thoroughly and fit properly If this does not then operate, replace
Too much air	Reduce air input using adjuster Re-commission
Faulty control box	Replace

4. Burner fires but creates smoke

Wrong oil grade	Provide correct oil
Air adjustment incorrect	Check against data check oil pressure, re-commission
Baffles misaligned	Fit according to figures
Oversized nozzle	Replace with correct nozzle Check against data
Air inlet blocked	Clear

5. Lockout in morning or cold starts

Air in oil line	Check oil line Check non return valve (wall mounted) Make sure all joints are sealed air tight
Low voltage	Check supply with local electricity supplier
Excessive combustion air	Commission properly
Oil pump sticking after prolonged shutdown	Replace oil pump

6. Limit light illuminates

Faulty control thermostat	Replace
No bypass in system, particularly where thermostat radiator valves are fitted.	- Water not being circulated away from the boiler
	Check heating system Check motorised valve system Check feed/expansion tank for correct operation Normally, if the limit light illuminates there is a problem with the heating system not the boiler.
Faulty electrics	Thoroughly check all connecting wires Search for loose connections.

7. Insufficient Hot Water

Boiler not up to temperature	Try after 20 minutes
Control Thermostat set too low	Turn to setting 3 or more



Possible Cause Remedy

Air trapped within appliance Bleed air properly

Circulating pump set too low causing poor circulation increase to setting 3

Motorised valve faulty Check and replace if necessary

Burner does not fire when reasonable amounts of hot water are drawn off. Faulty Control Thermostat

Hot water and central heating not operating Circulating pump faulty. Replace.

Air in system Bleed thoroughly

8. Pressure of system keeps falling

Leaks in system. Check and replace radiator valve. Check for any leaks and rectify

**Please ring our technical
 helpline for advice:
 0121 454 2244
 We are here to assist - do not
 hesitate to seek our help.**

11.5 Commissioning Data - All Models

Model	Nozzle Size	Oil Pump Pressure	CO2%	Smoke No.	F.G.T. Above Ambient Approx.
Grandee Combi & System SW 15/20	.65 x 80 EH	130 p.s.i.	10.5 - 11.5	0 - 1	185
Grandee Combi & System SW 20/24	.60 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	192
Grandee Combi & System SW 24/27	.85 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	200
Grandee Combi & System SFS 15/20	.65 x 80 EH	130 p.s.i.	10.5 - 11.5	0 - 1	218
Grandee Combi & System SFS 20/25	.85 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	227
Grandee Combi & System SFS 25/29	.85 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	205
Grandee Standard & External 1S 12/18	.50 x 80 EH	120 p.s.i.	10.5 - 11.5	0 - 1	225
Grandee Standard & External 2S 18/22	.60 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	185
Grandee Standard & External 3S 22/27	.85 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	192
Grandee Standard 5S 12/18	.50 x 80 EH	120 p.s.i.	10.5 - 11.5	0 - 1	200
Grandee Standard 6S 15/23	.60 x 80 EH	130 p.s.i.	10.5 - 11.5	0 - 1	205
Grandee Standard 7S 26/32	.85 x 80 EH	140 p.s.i.	10.5 - 11.5	0 - 1	215
Sorrento SH1 12/18	.50 x 80 EH	115 p.s.i.	10.5 - 11.5	0 - 1	225
Sorrento SH1 18/21	.60 x 80 EH	120 p.s.i.	10.5 - 11.5	0 - 1	220
Flamevector SH1 12/18	.50 x 80 EH	115 p.s.i.	10.5 - 11.5	0 - 1	215
Flamevector SH1 18/21	.60 x 80 EH	120 p.s.i.	10.5 - 11.5	0 - 1	218

IMPORTANT

HOUSEHOLDER: Should you experience problems with your Grandee appliance the manufacturer will require a pre-paid payment for site attendance unless this commissioning document is returned. Most boiler failures occur through faulty installation or commissioning for which the manufacturer does not accept responsibility.

Ask your installer to complete this information and retain

Boiler Model _____

Serial Number _____

Burner Type _____

Fuel _____

Installers Name and Address

Commissioning Data:-

Nozzle size and Type _____

Oil Pump Pressure _____

Air Setting _____

CO₂ _____

CO _____

Flue Gas Temperature _____

Service Engineers

name and address



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