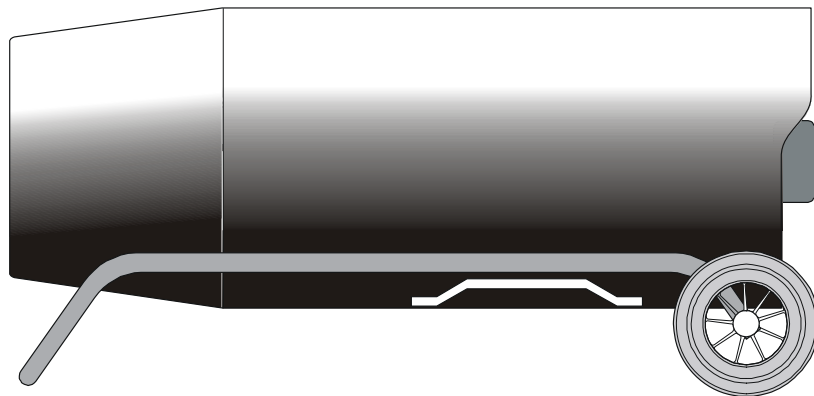
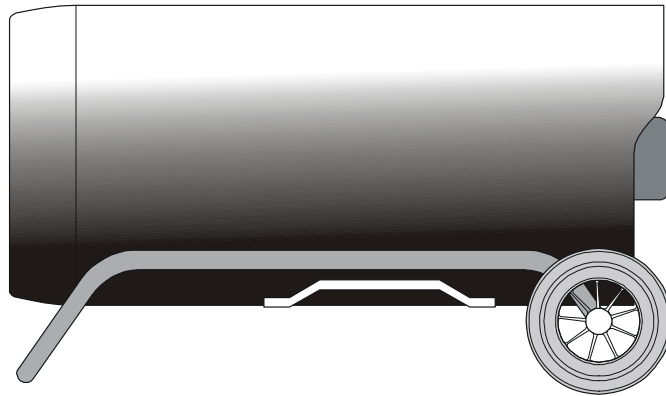
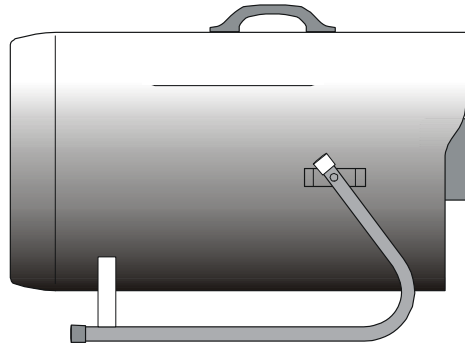


Jetaire



**Automatic & Manual (Propane) Heaters
Operating and Maintenance Manual
Models - LG 90M -150M/A - 280M/A - 350A**

1.0 Introduction

Quality Management System

The Jetaire range of portable and mobile direct fired LPG (propane) heaters are designed and manufactured within a quality management system assessed to BS EN ISO 9001:1994

Safety Criteria

All models within the range are CE marked, PIN 63AQ0533, and made in compliance with the following European Directives;

Gas Appliance Directive (90/396/EEC)
Machinery Directive (89/392/EEC)
Low Voltage Directive (73/23/EEC & 93/68/EEC)
Electromagnetic Compatibility Directive
(89/336/EEC & 92/31/EEC)
Specification for dedicated LPG appliances -
Mobile & Portable non-domestic forced convection direct fired air heaters
(BS EN 1596:1998)

The manufacturer has adopted practical measures to ensure that their Jetaire range of heaters will operate safely. The heaters must only be used in the manner, and for the purpose, for which they were intended; and their operation must be in accordance with the manufacturer's recommendations.

There are certain basic precautions which the user should be aware of, and the user is therefore strongly advised to read the operating instructions before using the heater.

The manufacturer has a commitment towards continuous improvement, and therefore reserves the right to amend or change the specification of the Jetaire range subject to agreement from the Notified Body. Whilst reasonable efforts have been made to ensure that all data and information provided is true and correct, the manufacturer cannot be held liable for any omissions or inaccuracies.

1.1 Warning Notices

- Type 'A' Appliance
- For use with propane vapour only
- Not for domestic use
- For space heating only
- This type of appliance must not be used in basements or below ground level
- Permanent ventilation to the outside atmosphere must be provided; 25cm² for every 1kW divided equally between floor and high level
- Allow a maximum heater rating of 100W/m³ of free room space
- Do not move the heater when it is in use
- Do not use the heater in environments where there are concentrations of volatile or explosive materials, or in areas where there are concentrations of flammable vapours
- Do not restrict either the inlet or the outlet on the heater
- The outlet at the front of the heater must not be within 3m of walls ceilings or other combustibile materials
- The air inlet must not be restricted and must have 1m of clear unobstructed access
- The appliance must be earthed
- Isolate from gas and electric supplies before commencing maintenance work on the heater
- Do not fit unapproved parts, or undertake unauthorised modifications to the heater
- The appliance must be regularly serviced by a competent person
- Refer to the manual for operating, fault finding, and maintenance information

In the event of a gas leak

- Never search for a gas leak with a naked flame
- Turn off the heater
- Close all cylinder valves
- Extinguish all sources of ignition in the vicinity
- Open doors and windows
- If the leak originates from the propane cylinder it should be placed outside away from sources of ignition and buildings, and the supplier advised
- Do not use the appliance and propane cylinder(s) until they have been checked by a competent person

1.2 Principle of Operation LG Automatic Heaters

The Jetaire Automatic range of portable and mobile propane heaters are all fitted with an atmospheric gas burner. The propane gas supply to the heater is by way of a high pressure hose, connected to the cylinder(s), by a high pressure regulating valve.

Models destined for use within the German market are fitted with an excess flow valve, and are supplied with a hose specification in accordance with German requirements.

All of the models within the range are equipped to provide automatic operation as standard. The units are also designed to offer a pre-selected dual voltage facility; care should be exercised prior to firing the heater to ensure that the voltage selection switch is set for the appropriate electrical supply.

When the heater is connected to its electric and gas supplies, plugged in, and with the mains electric supply switched on, and the cylinder valves opened and regulator set to maximum, the following sequence will be initiated when the 1 / 0 (on/off) switch on the heater is set to '1'

- 1 - Room stat and/or timer facility satisfied, heat demanded.
- 2 - Fan start and ignition sequence start.
- 3 - Over-heat stat satisfied, heat demanded.
- 4 - Power to control module.
- 5 - Pressure switch satisfied.
- 6 - Spark generator energised, to provide spark at combined spark ignition / flame proving probe.
- 7 - Solenoid valves energised and lock out neon extinguished, gas flows to burner.
- 8 - Burner ignition occurs.
- 9 - Flame detection satisfied, flame ionisation replaces spark ignition process on probe.

Flame is retained whilst the following are satisfied :-

- a) Gas supply available
- b) Electric supply available
- c) Heater 1/0 (on/off) set to '1'
- d) Room stat and/or timer demands heat, or the facility is correctly linked out
- e) Over-heat stat not at over-heat
- f) Power to control module
- g) Air pressure switch satisfied
- h) Flame detection satisfied

Note

If the ignition cycle is not satisfactory and burner ignition does not occur within 10 seconds of sequence initiation the heater will go to lockout, with the solenoid valves shutting off the gas supply to the burner. When the 1/0 (on/off) switch is turned to the '0' position, and then returned to the '1' position, the lockout is cleared from the control module enabling ignition cycle re-start, as detailed in 1 to 9 above.

Repeated nuisance lockouts must always be investigated to ascertain their cause. Refer to section 4 for further information.

The burner will continue to fire as long as the conditions listed (a) to (h) previously are satisfied, and the axial fan will provide sufficient airflow to give the correct air to gas ratio to allow safe and efficient combustion to occur. It will also deliver a sufficient throughput of air to ensure that heat is not transferred from the heat shield to the body of the heater whilst also ensuring air delivery temperatures are within safe limits.

The control module is programmed to allow for one re-ignition attempt, if this is unsuccessful the heater will go to lockout and remain so, until cleared. It should be noted that the criteria for ignition so far as the control box is concerned is a satisfactory flame detection signal.

1.3 Performance/Technical Data Automatic Heaters

Criteria	Model		
	LG-150A	LG-280A	LG-350A
Electrical supply	230V-1ph-50Hz / 110V-1ph 50Hz		
Fuse rating	5A	5A	5A
Protection factor	IP44	IP44	IP44
Electrical rated input	1.50A	1.40A	1.40A
Fuel supply	I _{3P} Propane Vapour		
Gas pressure Maximum (bar)	1.0	1.0	1.55
Gas pressure Minimum (bar)	0.35	0.20	0.70
Gas consumption Maximum (kg/h)	3.2	5.9	8.0
Gas consumption Minimum (kg/h)	1.8	2.4	4.7
Heat input (gross) @ max pressure (kW/h)	44.0	73.0	100.0
Heat input (gross) @ min pressure (kW/h)	25.0	34.0	60.0
Heat input (gross) @ max pressure (Btu/h)	150000	250000	360000
Heat input (gross) @ min pressure (Btu/h)	85300	116000	220000
Injector diameter (mm)	1.51	2.35	2.55
Burner head torque N/mm	1.1	1.3	1.3
Dimensions Weight (kg)	19.4	29.6	32.5
Height (without handle) (mm)	450	560	560
Length	645	935	1125
Width	415	450	450
Fan and motor Airflow (m³/s)	0.278	0.528	0.528
Motor Hp rating	0.060	0.170	0.170
Motor kW rating	0.040	0.125	0.125

1.4 Principle of operation LG Manual Heaters

The Jetaire manual range of portable and mobile propane heaters are all fitted with an atmospheric gas injector burner.

The propane gas supply to the heater is by way of a high pressure hose connected to the cylinder(s) via a high pressure regulating valve.

When the heater is plugged in and switched on the fan will start, if the button on the gas relay valve is then depressed, gas is allowed to flow to the burner head where it can be ignited by the high intensity spark from the piezo igniter.

The flame from the burner head heats the thermocouple, feeding a low voltage signal back to the gas relay valve, when the flame is established and the heat sufficient to generate approximately a 6 millivolt signal, the gas relay valve will remain open and the button can be released, allowing the heater to continue to fire.

In the event of flame failure the thermocouple will close the gas relay valve.

The valve will also close when an overheat situation is detected by the overheat thermostat.

The latter is usually a result of restricted air flow or excess gas pressure.

A solenoid valve provides additional safety and will shut off the gas supply if the power supply fails or if the heater is switched off before the gas supply is shut off.

The axial fan provides sufficient airflow to give correct air to gas ratio to allow safe and efficient combustion to occur, it also delivers a sufficient throughput of air to ensure that the heat is not transferred from the heat shield to the body of the heater, whilst also ensuring air delivery temperatures are within safe limits .

1.5 Performance/Technical Data Manual Heaters

Criteria	Model		
	LG-90M	LG-150M	LG-280M
Electrical supply	230V-1ph-50Hz / 110V-1ph 50Hz		
Fuse rating	5A	5A	5A
Protection factor	IP44	IP44	IP44
Electrical rated input	0.89A	1.5A	1.4A
Fuel supply	I _{3P} Propane Vapour		
Gas pressure Maximum (bar)	1.0	1.0	1.0
Gas pressure Minimum (bar)	0.14	0.35	0.02
Gas consumption Maximum (kg/h)	1.9	3.2	5.9
Gas consumption Minimum (kg/h)	0.8	1.8	2.4
Heat input (gross) @ max pressure (kW/h)	26.4	44.0	82.1
Heat input (gross) @ min pressure (kW/h)	10.5	25.0	34.0
Heat input (gross) @ max pressure (Btu/h)	90,000	150,000	280,000
Heat input (gross) @ min pressure (Btu/h)	35,800	85,300	116,000
Injector diameter (mm)	1.22	1.51	2.35
Burner head torque N/mm	0.7	1.1	1.3
Dimensions Weight (kg)	11.9	19.4	29.6
Height (without handle) (mm)	420	450	560
Length	567	645	935
Width	335	415	450
Fan and motor Airflow (m³/s)	0.131	0.278	0.528
Motor Hp rating	0.016	0.06	0.17
Motor kW rating	0.012	0.040	0.125

2.0 Operating Instructions

General

Servicing and maintenance must only be carried out by **competent persons** equipped with the correct tools and equipment

Only the manufacturers recommended parts may be fitted. Deviations and unauthorised modifications can compromise the safety and efficiency of the heater and are not permitted.

Warranty will be invalidated if these terms are not strictly adhered to

Gas Supply

Use propane vapour off-take cylinders, do not attempt conversion or use with other fuel categories. The minimum cylinder requirement is as follows :-

Heater Model	Minimum Cylinder Requirement
LG-90	1 x 18kg
LG-150	1 x 47kg
LG-280	2 x 47kg
LG-350	3 x 47kg

Running times can be extended through increasing the number of cylinders, connections should be made using pig-tail and tee piece assemblies. In very cold weather it may be necessary to use more than the above stated cylinder requirement in order to maintain vapour capacity and efficiency.

When connecting or replacing the cylinder(s) ensure that the procedure is carried out in a well ventilated area away from sources of ignition. Ensure that the cylinder valve is turned completely off. When connecting the regulator to the cylinder (or tee piece) ensure that all threads are free from contaminants and tighten the joint(s) using a 30mm propane spanner. Check for leaks using an approved brand of leak detection fluid, **never check for leaks with a naked flame.**

Propane cylinders must be stored in accordance with The Highly Flammable Liquids and Liquid Petroleum Gas Regulations, 1972, or other current local standards. It is suggested that reference is made to the June 1986 edition of Guidance Notes CS4 'The Keeping of LPG in Cylinders and Similar Containers'.

Propane is considerably heavier than air, spillage's and leaks tend to accumulate in hollows and at lower levels, such spillage's should be dissipated by ventilating the area.

The high pressure gas hose must not be subject to torsional stress, and should be regularly checked for damage.

Electrical Supply

Isolate from electrical supply before changing over voltage.

All Jetaire models are manufactured as dual voltage appliances for use with either 230V 1ph 50Hz or 110V 1ph 50Hz supplies. To change voltage remove the aluminium coverplate (2 off self tapping screws), slide the switch, reverse the plate and replace.

The appliance must be earthed, its fuse rating is 5 Amp, and a suitable plug must be fitted. The following cable colour coding applies:-

Brown	=	Live
Blue	=	Neutral
Yellow/Green	=	Earth

Note

If any doubt exists regarding the electrical supply, advice should be sought from the supplier of the heater.

2.1 Start Up Procedure Automatic

- a) Connect propane gas supply, open cylinder valve (s), set regulator to maximum pressure, check for soundness
- b) Connect to appropriate electrical supply and turn on the mains supply to the heater
- c) If a room stat and/or timer is connected ensure that it is set to demand heat
- d) Select '1' position for the 1/0 (on/off) switch

The Jetaire heater will now automatically go through the ignition cycle as detailed previously in section 1.2 Principle of Operation, and will continue to fire until such time as one or more of the criteria, that are required to ensure continuity of demand for heat, are not met. These criteria are listed as points (a) to (h) under section 1.2

From a minimum position of 3 meters in front of the heater visually check that the flame does not protrude through the front of the heater.

2.2 Shut Down Procedure

- a) Turn off gas supply at cylinder valve(s)
- b) When the fan has continued to run for 5 minutes to cool the heater, turn 1/0 (on/off) switch to '0'
- c) Disconnect electrical supply
- d) Disconnect gas supply

2.3 Ventilation Only

- a) Ensure electrical supply is disconnected
- b) Disconnect gas supply
- c) Link out room stat/timer
- d) Connect electrical supply
- e) Turn 1/0 (on/off) switch to '1' position

2.4 Start Up Procedure Manual

- a) Connect propane gas supply open cylinder valve(s) set regulator to 1 bar pressure
- b) Connect to appropriate electrical supply
- c) Select '1' position for the I/O (on / off) switch
- d) Ensure fan is running correctly
- e) Depress gas relay button, injecting propane into the burner
- f) Press piezo ignitor whilst holding in the relay valve button. Repeat as necessary within a maximum 30 second period.
- g) Continue to hold in the relay gas valve for 15 seconds after ignition has taken place, thereby allowing the thermocouple to carry out flame detection.
- h) Set regulator to required pressure for desired heat output
- i) To verify that the burner is operating correctly :

From a minimum position of 3 meters in front of the heater visually check that the flame does not protrude through the front of the heater.

NOTE

If the heater fails to fire within the 30 second period release the relay valve button.
DO NOT TRY TO LIGHT THE HEATER FOR AT LEAST 1 MINUTE

After 1 minute repeat steps a and f . If heater repeatedly fails to light seek advice

2.5 Shut Down Procedure

- a) Shut off propane supply by turning the cylinder valve (s) to OFF
- b) Allow fan to run for 5 minutes to cool the heater
- c) After cooling turn I/O switch to 'O' and disconnect from electrical supply.

2.6 Ventilation Only

- a) Ensure electrical supply is disconnected
- b) Disconnect gas supply
- c) Connect electrical supply
- d) Turn I/O (on/off) switch to '1' position

2.7 Storage

When not in use the heater should be stored in a clean dry environment with the high pressure propane hose and electrical lead secured in their storage positions.
Prolonged exposure to strong sunlight can cause a deterioration of the propane hose.

3.0 Maintenance

General

Regular servicing and maintenance are required to ensure that the heater is kept in a safe and efficient condition. The manufacturer recommends that the appliance is regularly inspected and that a service is performed at least once a year. Only **competent persons** are allowed to undertake servicing or maintenance work. Only manufacturers approved spare or replacement parts may be fitted, where possible, after any such work, gas carrying components and joints must be tested for soundness.

Before undertaking any work on the heater the gas and electrical supplies must be disconnected.

All external surfaces should be kept clean and free from dust and contaminants. Stubborn marks may be removed through using cleaning agents and/or solvent wipes. Do not use solvents to clean electrical components, leads, or the high pressure propane hose.

Ensure that all warning notices, operating instructions, and data plates are present and legible.

Access to the internal workings of the heater is gained through lifting the rear of the heater up through 90° so that the outlet cone is resting on a flat clean surface, the

four self tapping screws can then be removed and the complete burner, fan, and gas train assembly pulled clear of the body.

Burner assembly

Remove deposits and contaminants from the burner head and ignitor/flame probe, by lightly brushing the components, and by blowing through with compressed air from the injector end of the burner tube. Check that the fastenings are all secure and that the burner rings are all clamped and properly aligned (torque settings as per technical specifications). Check the ignitor/flame probe for signs of damage, pitting, or corrosion, and check that it is secure and correctly positioned; the tip should be approximately 4mm away from the upper rings in the burner head. Check that the ceramic insulation is in good condition, and that the HT lead is secure.

Injector

Remove the injector using a spanner and blow through with compressed air to remove any contaminants or debris. **Do not** use wire brushes or other hard instruments as these can damage the orifice. Replace the injector using an approved sealing compound to ensure a gas tight seal is formed.

Gas train

It is recommended that if there are any signs of damage to components or joints the entire gas train is replaced.

Fan and motor assembly

Clean fan blades and motor using a soft bristle brush and/or compressed air line. Check fan blades for signs of damage and ensure that the fan blades are securely mounted and correctly positioned. Ensure that the electrical leads do not foul on the fan, and that the motor and guard are secure.

Electrical

Check the condition of the HT lead and the leads from the overheat thermostat ensuring that they have not deteriorated through exposure to high temperature. Check all connections are secure and that there are no stray strands that could bridge across terminals on the terminal block, also check for signs of corrosion.

Heat shield etc

Ensure that the heat shield and its fastenings are all secure. Check air straighteners for position and alignment. Check discharge grille/nose cone is securely fastened and is not corroded.

Fault Finding Automatic

Fault	Remedial Action
1. Fan motor fails to run	<ul style="list-style-type: none">a. Check mains supplyb. Check plug and fusec. Check 1/0 switch is set to '1'd. Check roomstat is in 'demand'e. Check timer is in 'demand'f. Check stat/timer link outg. Check voltage selection switch is set to correct voltageh. Check electrical connections are goodi. Check fan motor is free runningj. Check for thermal overload cut out on fan motor
2. No gas at burner head	<ul style="list-style-type: none">a. Check propane cylinders are fullb. Check cylinder valves are openc. Check pressure setting on regulatord. Check solenoid valve is energisinge. Check injector/injector block is not restrictedf. Check for gas leak on gas train using leak detection fluid <p>Do Not search for gas leaks with a naked flame</p>
3. Fan runs, solenoid valves energise, but spark is not produced at burner head to facilitate ignition	<ul style="list-style-type: none">a. Check HT lead from control module to ignitor/probeb. Check connectionsc. Check gap between ignitor/probe and burner rings is < 4mmd. Check ceramic body on ignitor / probe is not damagede. Check ignitor is not corroded
4. Heater goes to lockout immediately after burner has ignited	<ul style="list-style-type: none">a. As in 3. aboveb. As in 3. abovec. As in 3. aboved. As in 3. abovee. As in 3. abovef. Check flame probe for signal minimum of 0.6 mAg. Check overheat stat

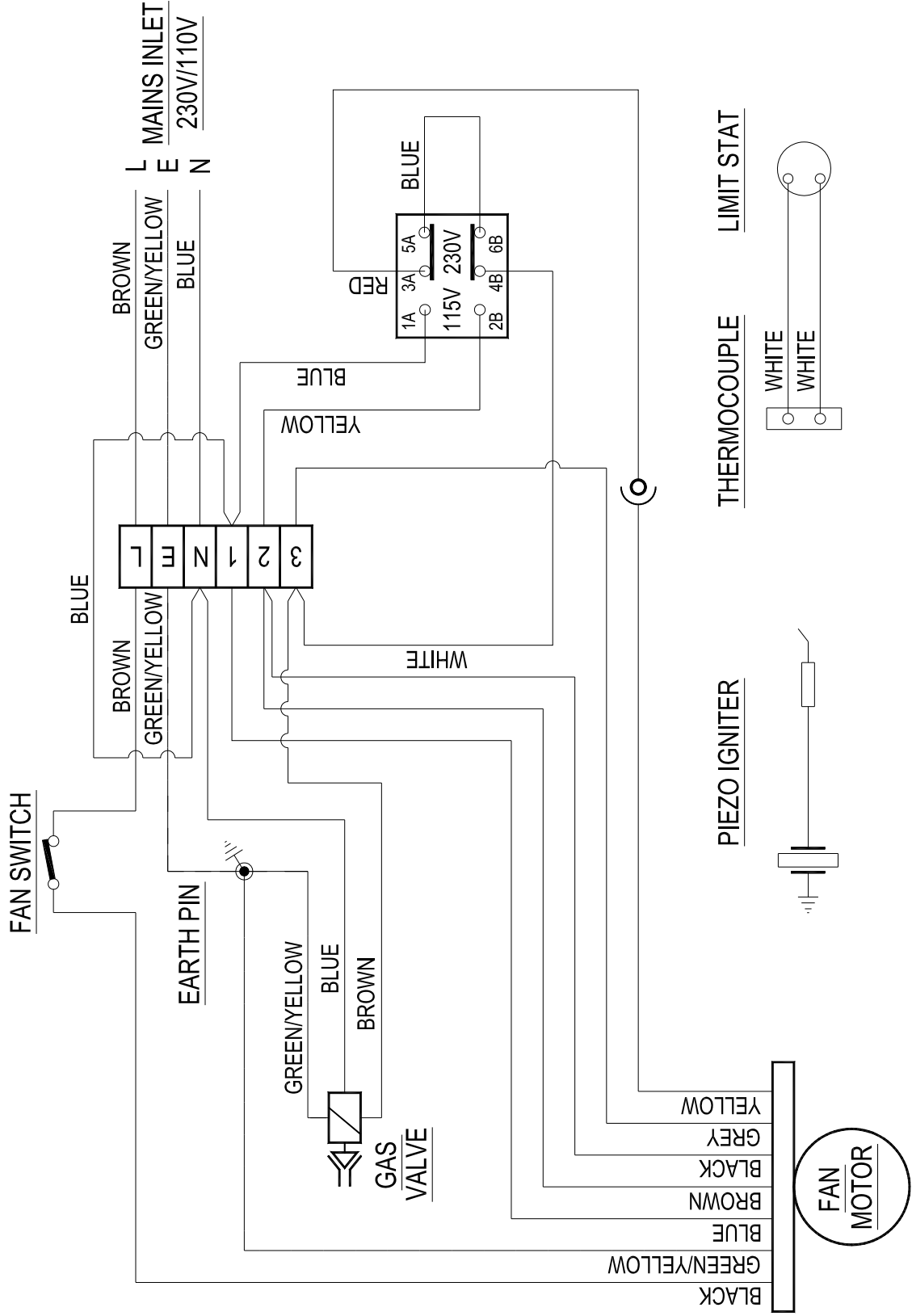
Fault Finding Manual

Fault	Remedial Action
1 Fan motor fails to run	<ul style="list-style-type: none">a. Check mains supplyb. Check plug and fusesc. Check I/O switch is set to Id. Check voltage change over switche. Check the fan motor is free runningf. Check electrical connections are good
2. No gas at burner head	<ul style="list-style-type: none">a. Check propane cylinders are fullb. Check cylinder valves are openc. Check pressure setting on regulatord. Check solenoid valve is energisinge. Check injector/injector block is not restrictedf. Check relay valve and thermocoupleg. Check for gas leak on gas train using leak detection fluid <p>Do Not search for gas leaks with a naked flame</p>
3. Fan runs, solenoid valves energise, but spark is not produced at burner head to facilitate ignition	<ul style="list-style-type: none">a. Check HT lead from piezo to ignitor/probeb. Check piezo is dischargingc. Check gap between ignitor/probe and burner rings is < 4mmd. Check ceramic body on ignitor / probe is not damagede. Check ignitor is not corroded
4. Burner lights but does not hold when gas relay is released	<ul style="list-style-type: none">a. Check thermocouple positionb. Check thermocouple for damage or corrosionc. Check gas connection to relay valved. Check overheat thermostat for damage or corrosione. Check electrical continuity through thermocouple and overheat
5. Burner fails to light	<ul style="list-style-type: none">a. Check that there is a spark at the burner head (see faults 3, a to f)b. Check there is gas at the burner head (see fault 2)c, Check that the electrical criteria are satisfied (see fault 1 .
6. Unexpected burner shut off	<ul style="list-style-type: none">a. Check gas supplyb. Check for overheat cut outc. Check for air restrictiond. Check thermocouple, gas valve, solenoid valve, overheat stat .e. Check electrical connections

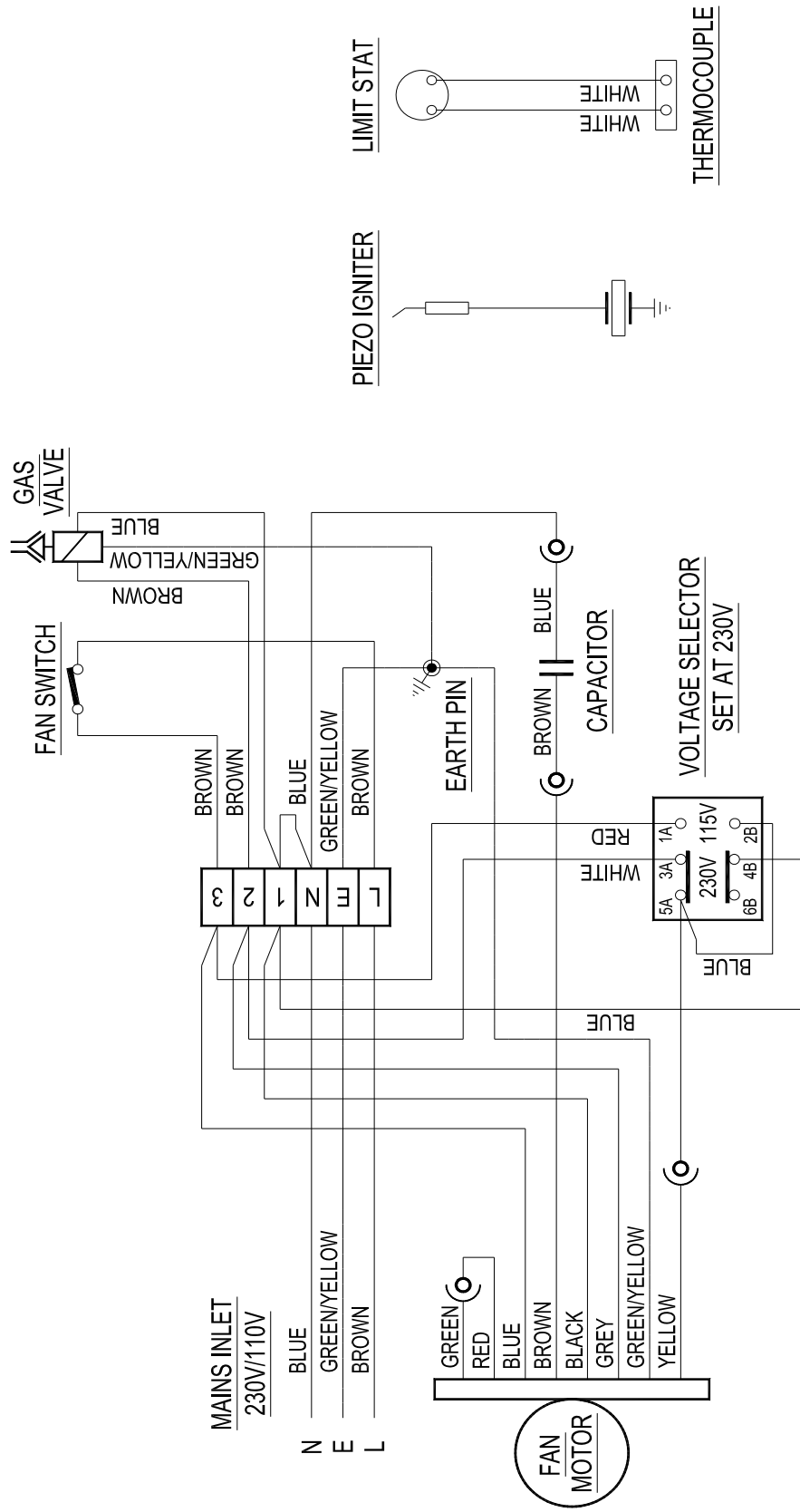
Note

The fault finding information on the previous pages is meant to serve as a guide only, and it is only possible to list the most common problems and the suggested remedial action for each such problem. In the event of a single or recurring problem which cannot be solved by the data or information contained within this manual the user is strongly advised to seek assistance from The Service Department at Benson Heating, the address, telephone number, etc, of which is detailed under section 8.0 of this manual.

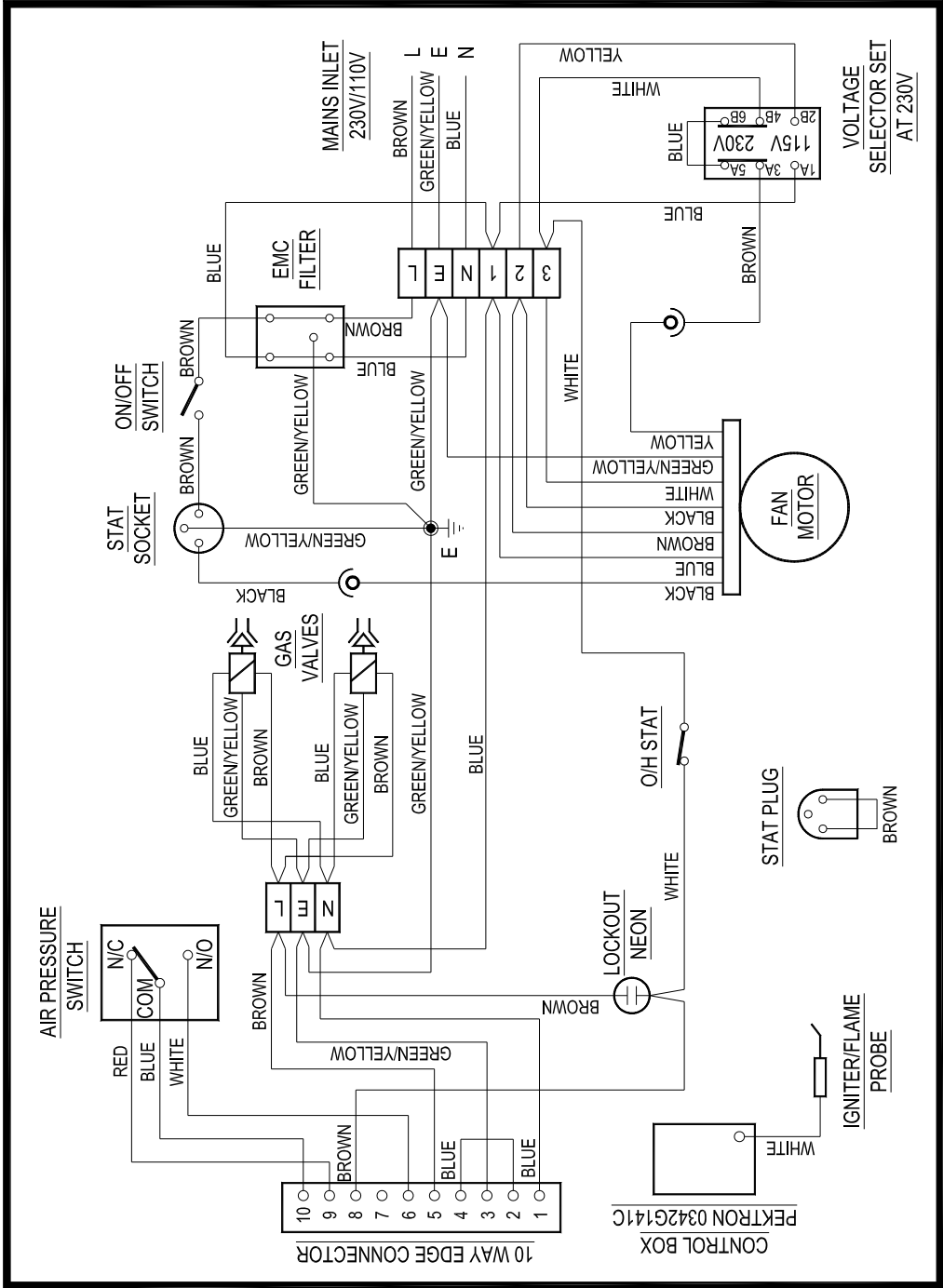
Wiring diagram LG 90 / 150 Manual



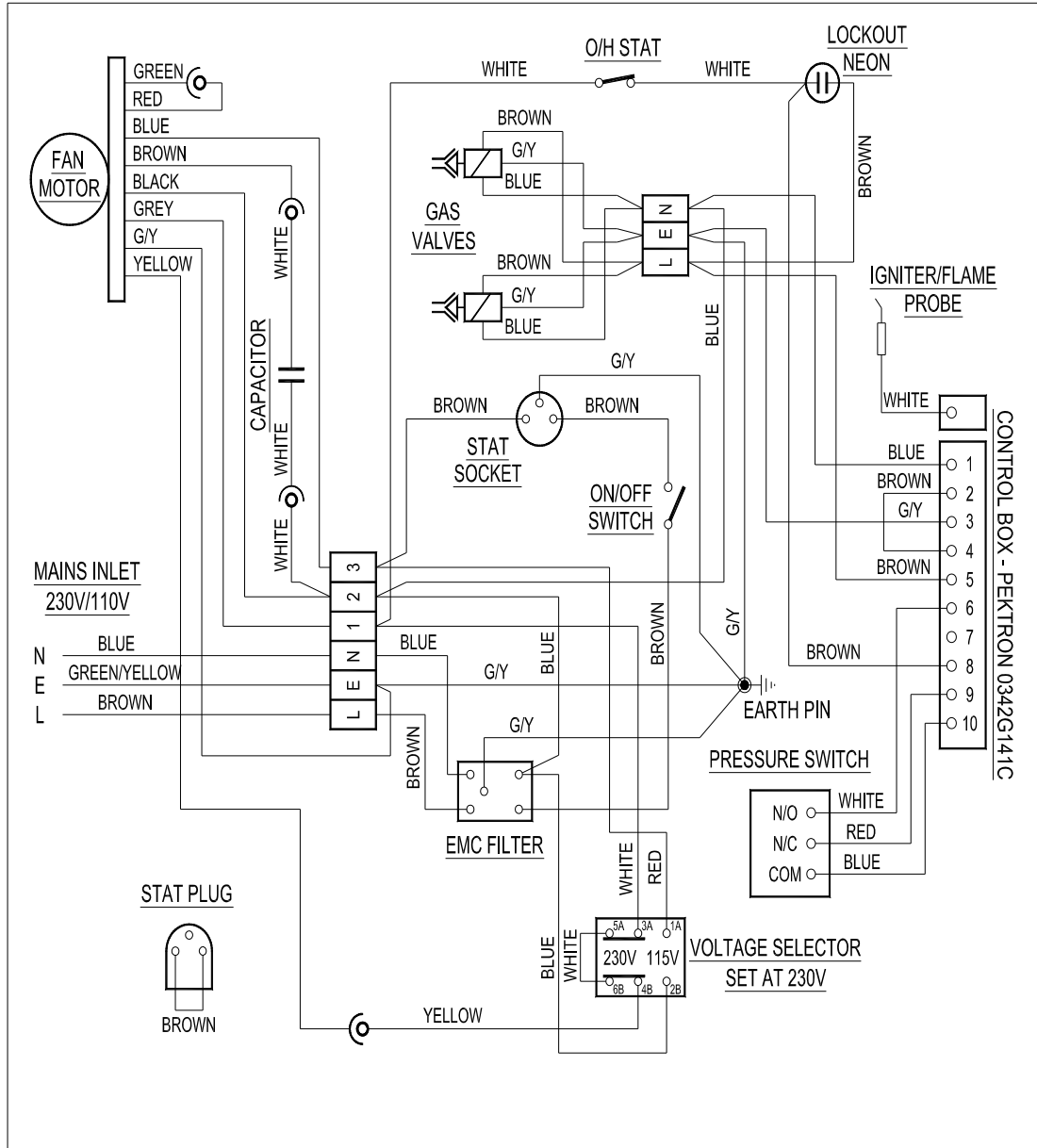
Wiring Diagram LG 280 Manual



Wiring diagram LG 150 Automatic



Wiring diagram LG 280 / 350 Automatic



Spare Parts LG Automatic

No.	Qty.	Description	LG150A	280A	350A
1	1	Pressure Switch	A20-01-045	A20-01-045	A20-01-045
2	1	Control Box	29-01-111	29-01-111	29-01-111
	1	Control Box edge connector	20-38-547	20-38-547	20-38-547
3	1	Mains Cable 240V only	28-02-002	28-02-002	28-02-002
4	1	Regulator Hose Assy.	21-19-807	21-18-519	21-18-542
5	1	Red Neon	28-50-003	28-50-003	28-50-003
6	1	On/Off (1/0) switch	A20-01-033	A20-01-033	A20-01-033
6a	1	switch cover	28-40-100	28-40-100	28-40-100
7	1	Voltage selection plate	A30-48-051	A30-48-051	A30-48-051
8	1	Voltage selection switch	A20-01-011	A20-01-011	A20-01-011
9	1	Stat socket	28-05-009	28-05-009	28-05-009
	1	Stat plug	28-06-010	28-06-010	28-06-010
10	2	Solenoid valve	28-30-144	28-30-144	28-30-144
&	1	Soln valve hex nipple	A23-01-042	A23-01-042	A23-01-042
11	2	Soln valve $\frac{1}{4} \times \frac{1}{8}$ couple	25-00-129	25-00-129	25-00-129
12	1	Terminal Strip	A20-09-136	A20-09-136	A20-09-136
13	1	Jet	21-19-813	A24-00-200	21-18-541
	2	Brass Nut	25-00-088	25-00-088	25-00-088
	1	Jet Holder	21-18-026	21-18-026	21-18-026
14	1	Electrode	21-19-253	21-19-253	21-19-253
15	13	Burner Ring Plain	21-18-040		
	10	Burner Ring Plain		21-18-511	
	11	Burner Ring Plain			21-18-511
16	12	Burner Ring Corrugated	21-18-041		
	9	Burner Ring Corrugated		21-18-510	
	10	Burner Ring Corrugated			21-18-510
17	1	Burner top plate	21-19-263	21-18-513	21-18-513
18	1	Overheat stat	28-40-057	28-40-057	28-40-057
19	1	Motor	28-10-091	n/a	n/a
	1	Fan & Motor Assy	n/a	A22-00-092	A22-00-092

Spare Parts LG Automatic

No.	Qty.	Description	LG150A	280A	350A
20	1	Fan	21-18-204	n/a	n/a
21	1	Control Panel Assy.	21-19-846	21-18-554	21-18-554
22	1	E.M.C. Filter	28-90-169	28-90-169	28-90-169
23/24	n/a	Tube polythene	A23-05-019	A23-05-019	A23-05-019
25		Regulator	Only available as part of item 4		
26	1	Heat shield	21-19-817	21-18-530	21-18-537
27	4	Air deflection fins	Only available as part of item 26		
28	1	Control box cover	21-19-827	n/a	n/a
29	1	Stand / Trolley	21-19-800	21-18-500	21-18-500
30	1	Body / Nose cone Assy.	21-19-848	21-18-531	21-18-552
31	n/a	Guard	Only available as part of item 26		
32	1	Handle (Top / plastic)	A07-00-006		
	2	Handles (Rear metal)		21-18-225	21-18-225
-	1	Regulator stowage boss	A30-48-126	A30-48-126	A30-48-126
-	2	Wheel	n/a	A30-01-002	A30-01-002
-	2	Wheel Clip	n/a	A30-01-030	A30-01-030
-	1	Bulk head Connector	n/a	21-18-568	21-18-568

Spare Parts LG Manual

NO	QTY	DESCRIPTION	LG90M	LG150M	LG280M
1	1	Heatshield	21-19-604	21-19-817	21-18-530
2	1	Casing assembly	21-19-601	21-19-815	21-18-531
3	1	Stand / Trolley	21-19-600	21-19-800	21-18-500
4	2	Wheel	N/A	N/A	A30-01-002
5	2	Wheel Clip	N/A	N/A	A30-01-030
6	1	Handle Top	A07-00-006	A07-00-006	N/A
6	2	Handle Rear	N/A	N/A	21-18-225
7	1	Voltage Selector	A21-01-011	A21-01-011	A21 -01 -011
8	1	Control Panel Frame	21-09-609	21-19-801	21-18-508
9	1	Gas Relay Valve	A24-00-193	A24-00-193	A24-00-193
10	1	Bulkhead Adaptor	N/A	N/A	A23-01-063
11	1	Regulator / Hose	21-19-807	21-19-807	21-18-519
12	1	Thermocouple	21-18-521	21-18-521	21-18-521
13	1	Electrode	21-19-253	21-19-253	21-19-253
14	1	Over Heat Thermostat	28-40-057	28-40-057	28-40-057
15	1	Solenoid Valve	28-30-144	28-30-144	28-30-144
16	1	Motor	28-10-104	28-10-091	22-00-092
17	1	Fan	28-09-045	21-18-204	N/A
18	1	Piezo Ignitor	A20-08-030	A20-08-030	A20-08-030
19	1	Igniter Lead	21-19-626	21-18-565	21-18-565
20	1	ON / OFF Switch	A21-01-033	A21-01-033	A21-01-033
21	1	Injector	21-19-640	21-19-813	A24-00-200
22	4	Corrugated Ring 1.0 mm	21-19-634		
22	4	Corrugated Ring 1.75 mm	21-19-618		
22	12	Corrugated Ring		21-18-041	
22	9	Corrugated Ring			21-18-510
23	9	Plain Ring	21-19-619		
23	13	Plain Ring		21-18-040	
23	10	Plain Ring			21-18-511
24	1	ON /Off Switch Cover	28-40-100	28-40-100	28-40-100
spare	only	Hose Assembly	21-19-642	21-19-642	21-19-642
		Capacitor			A20-08-055

