JOHNSON & STARLEY

JGD 25v.C, SE & BF DOWNFLOW SELECTIVE WARM AIR HEATERS

SfB (56)
UDC 697·3

Installation & Maintenance Instructions

Publication No. JA 20/6.

The JGD25v is a Gas Fired Forced Warm Air Heater produced in three variants:

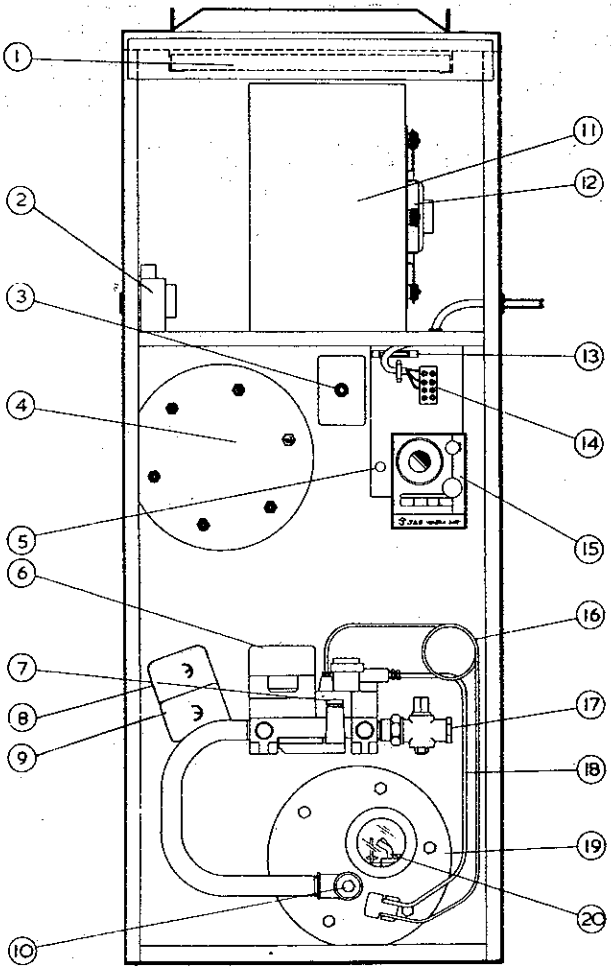
JGD25vC MKIV	Conventionally flued model with manual ignition.
JGD25vSE MKIV K	SE-Duct Model with electric ignition.
JGD25vBF MKIV K	Balanced flue model with electric ignition.

All three variants have an output of 25, 000 Btu/h (6.300k.cal/h. 7.23kW/h).

WATER HEATING The JGD25v Conventionally flued model provides for the optional external fitting to either side of an Ascot type 303C or a Maxol type JS. 30 Water Heater. Water Heater Fittings Kits, WK25/303 and WK25M respectively, are available from Johnson & Starley Ltd.

CONTENTS

Johnson & Starley Ltd



AIR HEATER.

1. AIR FILTER
2. TRANSFORMER
3. FAN FAILURE CONTROL
4. HEAT EXCHANGER SEALING PLATE
5. PUSH BUTTON IGNITION (MODELS JGD25BF & SE).
6. COMBINATION GAS CONTROL
7. GAS PRESSURE ADJUSTING POINT
8. FAN SWITCH
9. LIMIT SWITCH
10. GAS PRESSURE TEST POINT
11. AIR CIRCULATING FAN
12. FAN MOTOR
13. IGNITION FUSE (MODELS JGD25BF & SE)
14. TERMINAL BLOCK
15. PROGRAMME TIME CONTROL
16. THERMOCOUPLE
17. GAS COCK FOR MAINS CONNECTION
18. PILOT GAS SUPPLY PIPE
19. BURNER FRONT PLATE
20. SAFETY PILOT

1. HEATER COMPONENTS CHECK

THE FOLLOWING ARE ENCLOSED WITH ALL HEATERS

ITEM		QTY.	ITEM	QTY.
Nuts	For Base Duct Fitting	2	2 pin Room Thermostat Plug	1
Bolts		2		
Washers		4		

JGD25VC Mk.IV

ITEM		QTY.
Draught Diverter		1
Draught Diverter Bracket		1
Screws	For Draught Diverter Bracket Fitting	2
Nuts		2
Washers		4
Combustion Air Inlet Baffle		1

JGD25VSE & BF Mk.IV K

ITEM		QTY.
Asbestos Rope Sealing Rings		2
Tie Rods with Nuts	JGD25SE	2
Clamping Brackets	JGD25SE	2
Eye Bolts	JGD25SE	2
Washers	JGD25SE	2
Tie Rods with Nuts	JGD25BF	4
Clamping Brackets	JGD25BF	2
Eye Bolts	JGD25BF	2
Washers	JGD25BF	4
Balanced Flue Assy	JGD25BF	1

2. PREPARATION & WARM AIR INSTALLATION REQUIREMENTS

a) HEATER INSTALLATION CLEARANCES - from Combustible Materials.

Back	2"	(51mm)
Sides	2"	(51mm)
Front	3"	(77mm)

It is recommended that the access door to the heater cupboard be large enough to permit the heater removal. Service access required to the front of the heater is 18" (457mm).

The positioning of the heater base duct or warm air plenum should be adjusted to give the required clearances from any combustible materials. In the case of a balanced flue or S.E.-Duct installation the base duct or warm air plenum should be positioned in the correct relative position to any pre-cut holes (SEE FIGS. 4, 5 & 6).

b) INSTALLATION ON SUSPENDED FLOORS.

Combustible floors must be insulated from the heater. When a base duct is used insulation can be provided by a suitable non combustible material i. e. asbestos board (SEE FIG. 1).

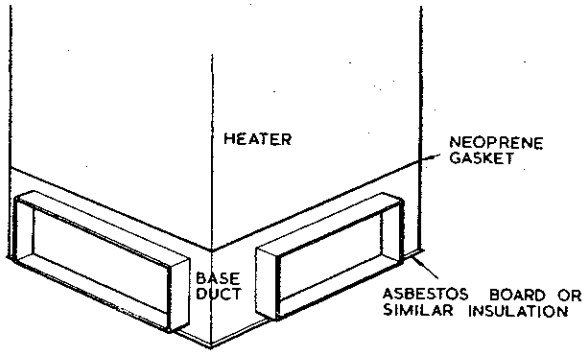


FIG 1

When an underfloor warm air plenum is used insulation can be provided by using a J. & S. Base Tray - BT25 (SEE FIG. 2 & 3).

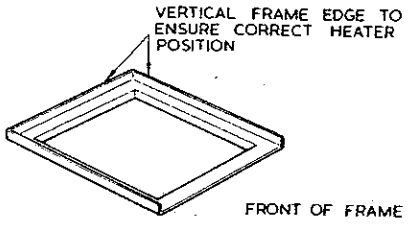


FIG 2

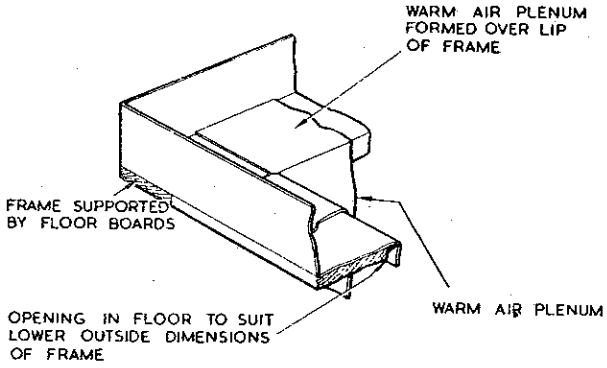


FIG 3

c) INSTALLATION ON SOLID FLOORS

An underfloor warm air plenum may be used in a solid floor. Adequate insulation should be provided for both plenum and ducting.

d) ELECTRICAL

A 220/240 Volt socket is required adjacent to the heater. The 24 volt room thermostat wires should be brought into the heater cupboard and sufficient length left to enable connection to be made to thermostat socket which is on the right hand side of the heater.

e) SUMMARY OF REQUIREMENTS AND RECOMMENDATIONS FOR WARM AIR SYSTEMS.

Regulations of importance concerning Gas-Fired Warm Air Systems:

Building Regulations.

British Standard Code of Practice CP. 332 Part 4.

Institute of Electrical Engineers Regulations (External Wiring).

Johnson & Starley publish a Warm Air Design Manual - Publication JA. 63 which is obtainable upon request.

Information in the following paragraphs has been extracted from these regulations and, in some cases, amplified in the light of specific requirements of the JGD25v.

f) VENTILATION AND COMBUSTION AIR TO HEATER COMPARTMENT - MINIMUM REQUIREMENTS.

JGD25vC	Low Level Grille, Free Area 25 sq. ins.
	High Level Grille, Free Area 13 sq. ins.
JGD25vBF & SE	Low Level Grille only, Free Area 13 sq. ins.

Conventionally flued model with Water Heater fitted.

	Low Level Grille, Free Area 36 sq. ins.
	Iligh Level Grille, Free Area 18 sq. ins.

g) FLUES.

Building Regulations can be satisfied by a variety of materials, lightweight asbestos is commonly used. NOTE that untreated asbestos is acceptable only for flues not exceeding 20 ft. serving the air heater only (no water heater). Asbestos flues of over 20 ft., or of any length - if serving air heater and water heater, must be treated with vinyl acetate or a similar protection.

3. FITTING SEQUENCE.

JGD25vC Mk.IV (Fig.9 Page 8)

a) Fit the combination flue box and draught diverter over the top spigot at the back of the heater with its long spigot upwards.

b) Fit the heater flue bracket over the adaptor and secure to the heater cabinet with nuts and bolts provided. Tighten bracket to ensure firmness. To facilitate fitting the flue bracket, pull filter tray forward.

c) With the notice "TOP" uppermost, fit the combustion air inlet baffle to the bottom spigot at the rear of the heater.

d) Carefully lift the heater into the heater cupboard and bolt it squarely on the base duct, or set it on the insulating frame for suspended floors or sunken warm air plenum for solid floors. Make sure no leakage of air occurs between the heater and base duct.

e) Complete the flue connection, using a split clip, to the heater flue box. Flue installations should comply with Gas Board requirements and Building Regulations.

NOTE: The flue pipe must be supported to relieve its weight from the heater.

JGD25vBF Mk.IV K (Fig.10 Page 8)

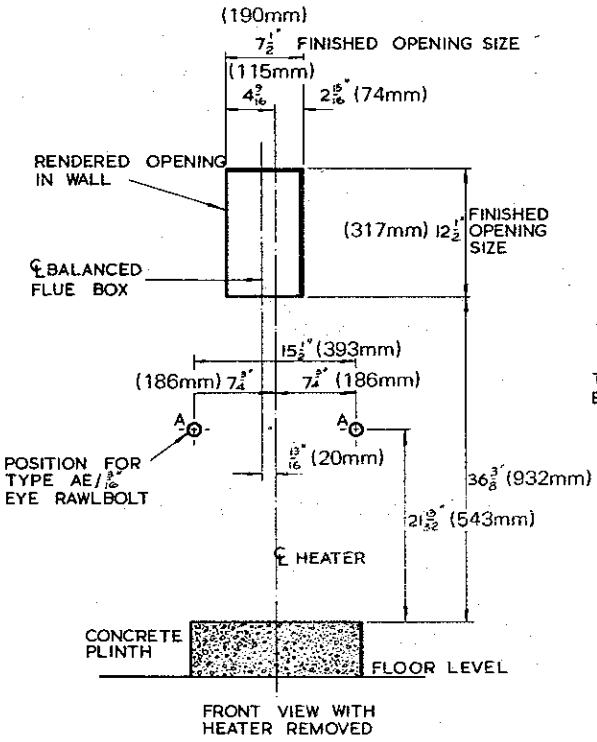


FIG 4

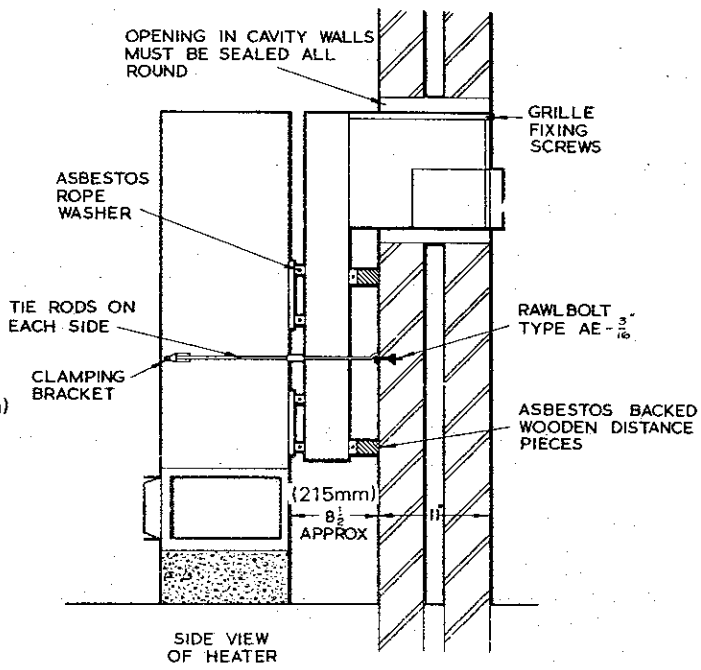


FIG 5

The terminal is suitable for walls up to 14" (356mm) thick, the flue installation should comply with Gas Board requirements and Building Regulations.

a) Prepare a finished opening in the wall to the dimensions and position shown in Figs. 4 & 5.

b) Fix the two Eye Rawlbolts - Type AE-3/16" securely into the wall at positions 'A' - 'A'. The flue terminal box is a standard length of 14", hence for an 11" cavity wall prepare two asbestos backed wood distance pieces about 3" thick and the same width as the connecting box to fit between the wall and the back of the connecting box in the positions shown in Fig. 5.

For other types of wall, distance pieces of appropriate thickness should be used.

c)) Position the flue terminal box in the wall opening and fit the distance pieces as shown. Fit the cast terminal grille to the flue terminal box making sure that it is level with the outside surface of the wall. Do not overtighten the holding screws. Insert the threaded ends of one pair of tie-rods through the connecting box clamp bar and engage the hook ends into the Rawlbolt eye. Dependant upon wall thickness these tie rods may require shortening. Start the tie-rod nuts and carefully tighten each side so that the asbestos strips and wood distance pieces are held firmly. Check that the connecting box is square to the wall both vertically and horizontally.

d) Insert the clamp brackets through the slots in the side of the heater cabinet. Fit the soft asbestos sealing washers on both spigots at the rear of the heater and carefully lift the heater into the cupboard as detailed in JGD25vC (d) so that the spigots enter the sockets in the connecting box.

e) Insert the threaded end of the other tie rods through the clamp brackets and place the hook ends in the slots on the connecting box clamp bar.

Start the tie-rod nuts and carefully tighten each side so that the asbestos washers compress evenly to form an effective seal between the back of the heater and the Balanced Flue connecting box.

JGD25vSE Mk.IV K (Fig.11 Page 8)

CONNECTION DETAILS FOR SE-DUCT APPLICATION

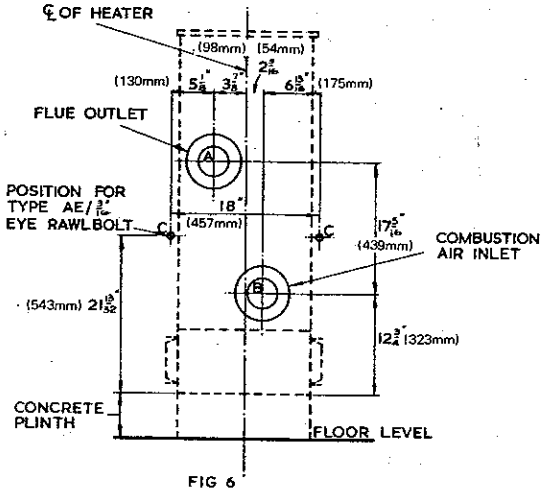


FIG 6

These instructions refer to SE-ducts constructed from concrete blocks or similar materials. Information for fitting and securing heaters to SE-ducts constructed of light-weight materials e.g. asbestos board, is available from Johnson & Starley.

NOTE: The concrete plinth for the heater must be so formed that the distance from its levelled top to the centres of SE-duct entries 'A' and 'B' is exactly to the measurements shown in Fig. 6 -unless this is correct, the heater will fail to fit the SE-duct flue.

a) Cement a piece of 5" inside diameter light duty asbestos cement pipe into each hole in the SE-duct, at 'A' and 'B' - Fig. 6. The outer ends of these pieces to be flush with the outer surfaces of the SE-duct cladding. The inner end of the lower pipe 'B' to be flush with the inner surface of the SE-duct and the end of the upper pipe 'A' to project 1" into the SE-duct.

b) Fix an Eye Rawlbolt Type AE-3/16" into the SE-duct cladding at each position 'C' and ensure firm anchorage.

c) Insert the clamp brackets through the slots in the sides of the heater cabinet. Fit the threaded ends of the tie-rods through the holes provided and start nuts on threads.

d) Fit the soft asbestos sealing washers on both spigots at the back of the heater, bolt securely to the base duct with the bolts provided, carefully lift on to the concrete plinth and slide into the compartment so that the spigots enter the asbestos cement pipes.

e) Hook each tie-rod into the Rawlbolt eye and carefully tighten each side so that the asbestos washers compress evenly to form an effective seal between the back of the heater and the SE duct.

SPECIAL SE-DUCT OR "U" DUCT FITTINGS.

Heaters fitted near the bottom of a SE-duct or "U" duct may require a special adaptor between the heater and the duct. Information is available on this application from Johnson & Starley.

4. RETURN AIR.

Positive return air duct should now be installed. (SE-duct and balanced flue heater may be installed without positive return air.)

5. GAS SUPPLY

A ½" Gas Cock is supplied and connection is made from the right hand side. The gas supply pipe should have a minimum diameter of ½" depending on length of run and installation should conform to Local Gas Board requirements and Building Regulations.

6. ELECTRICAL CONNECTIONS.

a) MAINS SUPPLY The heater is supplied complete with mains lead which may be connected either side to a 5A. fused plug suitable for the mains socket provided in the heater cupboard.

b) ROOM THERMOSTAT. A 24V two pin socket is provided on the right hand (facing) side of the heater. The two pin plug provided should be connected to the 24V room thermostat wires brought into the heater cupboard and the plug fitted to the heater socket.

c) TIME CONTROL. The Horstmann type 423 Emerald time control is fitted as standard and pre-wired into the heater. No on site electrical connections are necessary.

7. COMMISSIONING.

a) Check that provisions for combustion and ventilation air to heater cupboard are in accordance with para.2(f) and that return air path to heater is adequate and free of obstruction.

b) Check that at least two registers are open.

c) Set room thermostat anticipator to 0.5, and set thermostat pointer to OFF.

d) Check that both Fan and Limit Switches are set correctly, see specifications for settings.

NOTE: Some heaters are fitted with an automatic Fan Timer Switch, the settings of which are not adjustable.

e) Fit gas pressure gauge to test point on burner manifold.

f) Turn on gas supply and bleed off air.

g) Switch on electricity.

h) Identify whether the heater installed is Electric or Manual Ignition and follow the appropriate lighting instructions inside heater lower door.

NOTE: The circulating air fan operates a short time after main burner has lit, i.e. when sufficient heat is available in heat exchanger–and shuts down a short time after main burner has gone out, i.e. when all useful heat is removed from the heat exchanger.

i) PILOT FLAME ADJUSTMENT

May be necessary whilst commissioning the heater. The pilot flame should be adjusted so that it just envelopes the thermocouple tip. To adjust the pilot flame remove the screw dust cap on Gas Control. SEE FIG. 7. Within the turret will be found a small adjusting screw which increases or decreases the gas flow to pilot burner if screwed anti-clockwise or clockwise respectively.

j) BURNER BAR PRESSURE

Check burner bar pressure at gas manifold or gas rate at gas meter and re-check after 20 mins. Adjustment is carried out by removing the dust cap of the gas pressure adjustment point. SEE FIG. 7. After removing the cap another screw can be seen which if screwed clockwise increases the gas flow and if screwed anti-clockwise decreases the gas flow.

k) TIME CONTROL

Set time control as manufacturer's instruction included with the heater.

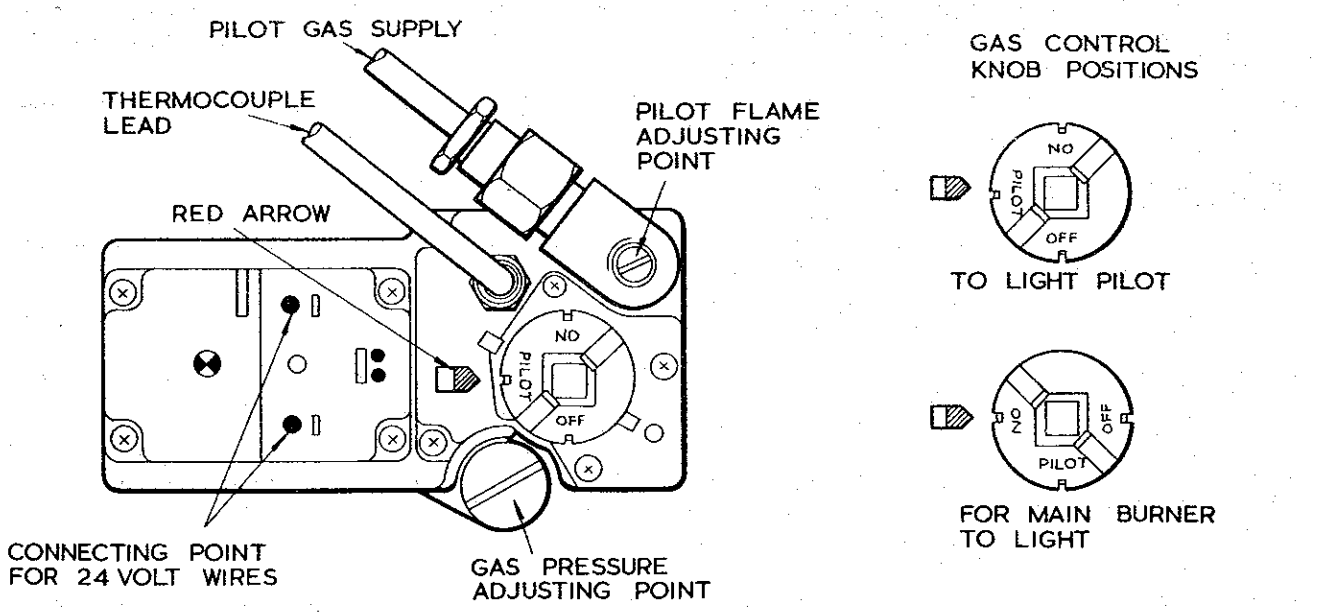


FIG 7

V8257 COMBINATION GAS CONTROL

8. SERVICING AND FAULT FINDING

SWITCH OFF ELECTRICAL SUPPLY TO HEATER BEFORE SERVICING

SYMPTOM	POSSIBLE CAUSE	REMEDY
a) Pilot will not light	i) No gas supply to heater.	Break gas cock union and listen for escape
	ii) Gas supply pipe not purged.	Break gas cock union until gas is detected.
	iii) Pilot orifice restricted.	Clear pilot orifice carefully with soft copper fuse wire.
	iv) Ignition fuse or igniter faulty (Electric ignition models only).	Check for soundness.
b) Pilot lights but goes out on releasing control knob.	i) Connection between thermocouple and gas control not secure.	Check connection is secure.
	ii) Faulty Pilotstat or Gas Control.	Replace Pilotstat
	iii) Faulty Thermocouple.	Replace Thermocouple.
	iv) Pilot flame not sufficient.	Adjust as in 7.
c) Pilot lights but goes out after normal operation.	As b above.	As b above.
d) Pilot alight but main burner not igniting.	i) Mains electrical supply not connected to heater.	Check mains supply.
	ii) Gas control knob not in ON position	Check position of knob.
	iii) Controls not calling for heat	Check time control and room thermostat are calling for heat.
	iv) 2A. fuse (if fitted) failed	Replace and if failure occurs again check external room thermostat leads for shorting to earth.
	v) Loose connection on room thermostat, limit control, gas control head, time control or transformer.	Check all connections for soundness.
	vi) Transformer open circuited.	Check with test meter and replace transformer if necessary.
	vii) Gas control operator faulty	Replace operator.
	viii) Gas control governor faulty	Replace governor.
	ix) Limit control faulty	Check operation by shorting across control connections.
	x) Faulty room thermostat or external wiring.	Fit temporary loop in heater room thermostat socket. If heater fires, external circuit or room thermostat is faulty.
e) Main burner lights but fan fails to operate.	i) Loose electrical connection on fan control or fan plug and socket.	Check connections for soundness.
	ii) Fan control settings incorrect.	Check settings are 100°F OFF 20°F DIFF.
	iii) Faulty fan assembly	Replace assembly ensuring that pressure is not placed on impeller or motor. Balance of assembly may be distorted.
	iv) Faulty fan control or fan timer	Replace component.
	v) If fan timer is fitted room thermostat anticipator setting low.	Adjust anticipator setting to 0.65A.
	vi) Burner bar pressure not correct.	Adjust pressure if necessary.
f) Main burner operating intermittently with fan operating.	i) Gas rate and burner bar pressure high.	Check gas rate and burner bar pressure.
	ii) Limit control setting not correct.	Adjust to 220°F.
	iii) Air filter or return air path restricted.	Check filter for cleanliness and return air for obstruction.
	iv) Excessive number of registers closed.	Open additional register.
g) Main burner operating with intermittent fan operation.	i) Gas rate or burner bar pressure low.	Check gas rate and burner bar pressure.
	ii) Fan control settings incorrect.	Check settings are 100°F OFF 20°F DIFF.
h) Fan continues running for excessive period or operates intermittently after main burner shuts down.	i) Fan control settings incorrect.	As g(ii) above.
i) Noisy operation.	i) Gas pressure high.	Check burner bar pressure.
	ii) Noisy fan motor.	Replace fan motor.

j) Room termperatures too high or too low.	i) Incorrect siting of room thermostat.	Re-position room thermostat if necessary.
	ii) Room thermostat out of calibration.	Re-calibrate.
	iii) Heater gas rate low.	Check and adjust gas rate if necessary.
	iv) Insufficient return air or relief.	Check return air path for size and obstruction. Fit relief grille to areas with no positive return air collection.
k) Heater switches on and off outside required periods.	i) Time control motor running slowly.	Replace time control.
	ii) Time control tappets slipping.	Replace time control.
	iii) Time control tappets not set in correct sequence.	Refer to time control operating instructions and set tappets accordingly, i.e. No.1 on in the morning. No.2 off in the morning. No.3 on in the afternoon. No.4 off in the afternoon.

9. MAINTENANCE.

SWITCH OFF ELECTRICITY, REMOVE MAINS PLUG AND TURN OFF HEATER GAS COCK.

Maintenance is recommended annually and should cover the following:-

a) MAIN BURNER CLEANING.

Remove burner

Upon removal, the burner merely requires the gentle removal of any dust which may have accumulated. Under no circumstances should the burner holes be enlarged or distorted.

b) MAIN INJECTOR CLEANING.

Remove main injector(s)

When the injector has been removed, clean injector orifice by passing soft copper fuse wire through, this is sufficient to remove any foreign matter which may have gathered in the orifice.
Great care must be taken when cleaning the orifice that it is not damaged or enlarged.

c) PILOT INJECTOR CLEANING

Remove pilot injector

Great care must be taken when cleaning the pilot injector orifice that it is not damaged or enlarged. To clean the orifice, pass soft thin copper fuse wire through the orifice, this is sufficient to clean out any foreign matter which may have formed.

d) THERMOCOUPLE

The only thing that should need inspection on the thermocouple is the contact to the Gas Control, ensure that this contact is clean. To tighten this contact to the Gas Control, screw in finger tight then another $\frac{1}{4}$ turn.

e) GLOW COIL INSPECTION (MODELS JGD25vSE & BF)

Operation of igniter switch will check if glow coil is operational. When burner bar is removed, inspect glow coil to ensure it is in good condition.

f) FAN AND FAN MOTOR CLEANING.

Remove Fan Assembly.

When fan has been removed from the heater, remove all dust etc. from both Fan Impeller and Fan Motor. Care must be taken whilst cleaning both items that the fan balance is not disturbed.

g) AIR FILTER CLEANING.

Remove complete air filter assembly from the heater. Remove polyurethane filter from filter tray and wash in luke warm water and detergent. Squeeze filter to remove most water and replace.

h) GAS PRESSURE CHECK.

Attach a gas pressure gauge to gas pressure test point on burner manifold, check pressures and confirm by gas rate check at the meter. See pressure table on Page 9. If gas pressure needs adjustment refer to section 7j.

i) PILOT FLAME CHECK.

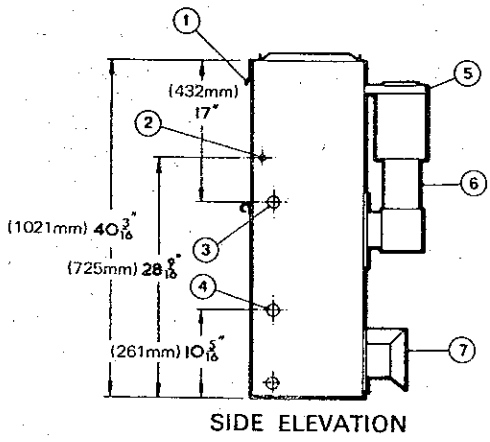
Ensure pilot flame is as described in section 7 .

j) AUTOMATIC CONTROLS INSPECTION.

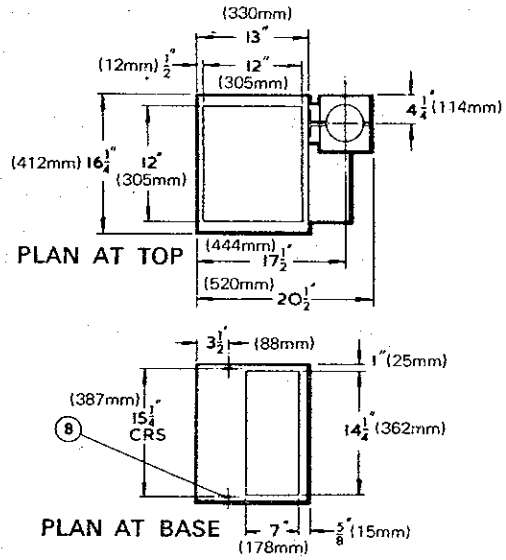
Lighting the heater and allowing to run for a short time checks these controls.

10. DIMENSIONS

JGD25vC MK IV CONVENTIONAL FLUE



SIDE ELEVATION

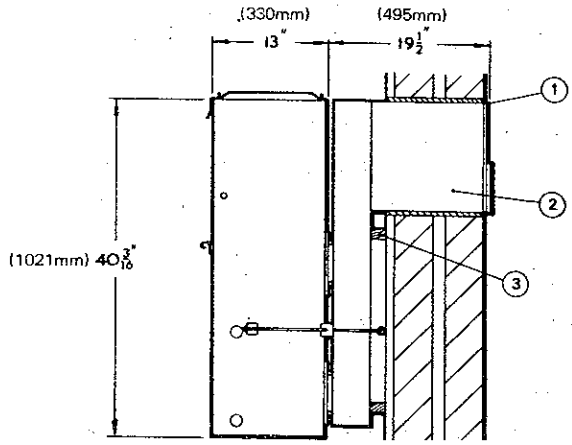


PLAN AT TOP

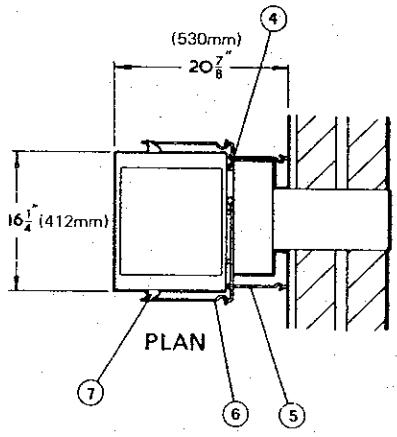
PLAN AT BASE

FIG 9

JGD25vBF MK IV K BALANCED FLUE



SIDE ELEVATION



PLAN

FIG 10

JGD25vC.

1. Air Filter
2. Grommet for electrical entry (both sides)
3. Thermostat connection socket (RH)
4. Gas connection entry (RH)
5. Securing Bracket
6. Draught Diverter
7. Combustion Air Inlet shield
8. Holes for Base Duct fixing bolts.

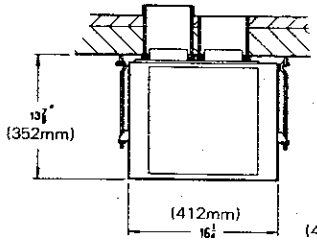
JGD25vBF

1. Cavity sealed all round
2. Balanced flue terminal
3. Distance piece
4. Asbestos rope sealing rings
5. Tie rod and eye bolt
6. Tie rod
7. Clamping bracket.

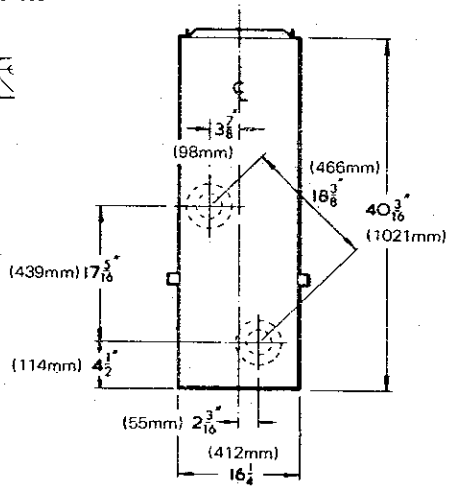
JGD25vSE

1. Clamping bracket
2. Tie rod and eye bolt
3. Air inlet Baffle
4. Asbestos rope sealing rings.

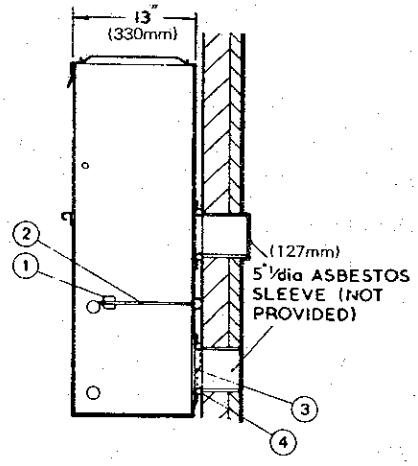
JGD25v SE MKIV K.



PLAN



FRONT ELEVATION



SIDE ELEVATION

FIG 11

11. SPECIFICATION

Electrical Supply	220–250 Volts, 50 cycles, 5 amps
Mains Connection	6ft. external lead provided, high temperature P.V.C. sheathed.
Gas Connection	½" B.S.P. FEMALE.
Gas Cock	½" UNION, provided.
Room Thermostat Connection	24Volt Plug and Socket on cabinet side.
Room Thermostat	24 Volt type required.
Time Control	Horstmann type 423 Emerald as standard. 4 tappets, ON, OFF, ONE CYCLE AND TWO CYCLE selector and overide button.
Transformer	20VA. 24V. Westool type TD-77-A4P1. (Model JGD25C). 20VA. 24V. Honeywell type RWD667 (Models JGD25vBF and JGD25vSE).
Limit Switch	Upper: Otter T29/3390.
	Lower: Honeywell L4069C. 220°F. OFF TEMP. DIFFERENTIAL 25°F. Fixed.
Fan Switch	Honeywell L4068C. Fan OFF 100°F. DIFFERENTIAL 20°F.
or	i.e. FAN ON 120°F.
Fan Timer Switch	Honeywell S876 A.B.

Combination Gas Control.	Honeywell V8257 (24V).
Thermocouple	Honeywell Q309.
Pilot Burner	Honeywell Q314A.
Glow Coil	Honeywell 388700 F.I. BOS. 345 (Models JGD25vBF and JGD25vSE).
Ignition Switch	Honeywell 2PL/9004. (Models JGD25vBF & JGD25vSE).
Ignition Fuse	10 amp. (Models JGD25vBF and JGD25vSE).
Circuit Fuse	24V. 2amp x 1¼" (32mm) cartridge.
Fan	Double entry centrifugal fan with an integral motor. Type 71D2T -Airflow - Developments.
Fan Motor	Type BC. 1504D. 1½MF - A.E.I.
Heat Exchanger	Chrome diffused steel, welded.
Flue Connection	Socket for 4" (101mm) I.D. Light-weight asbestos.
Cabinet	Sheet steel, white stove enamelled with internal radiation shields.
Weight	Air Heater without flue fittings - 86 lbs.
BT.25	For use when heater installed on combustible floor with under-floor plenum (optional extra).

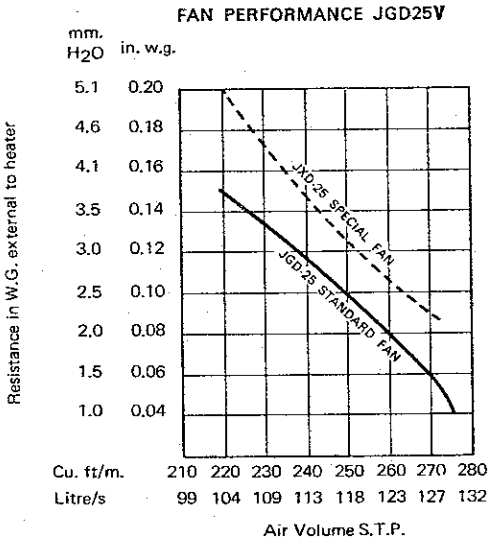
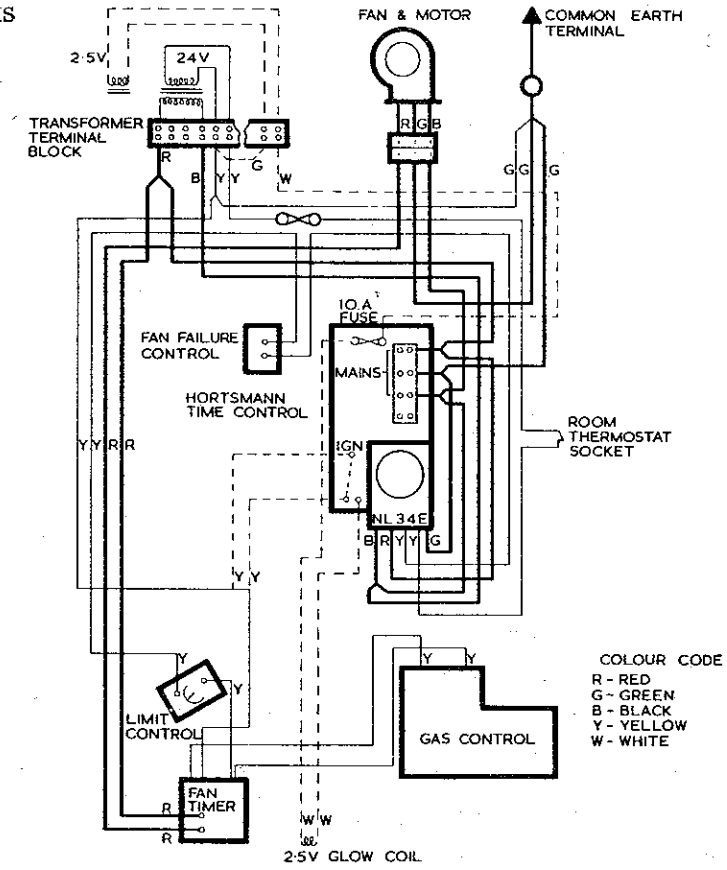


FIG 13

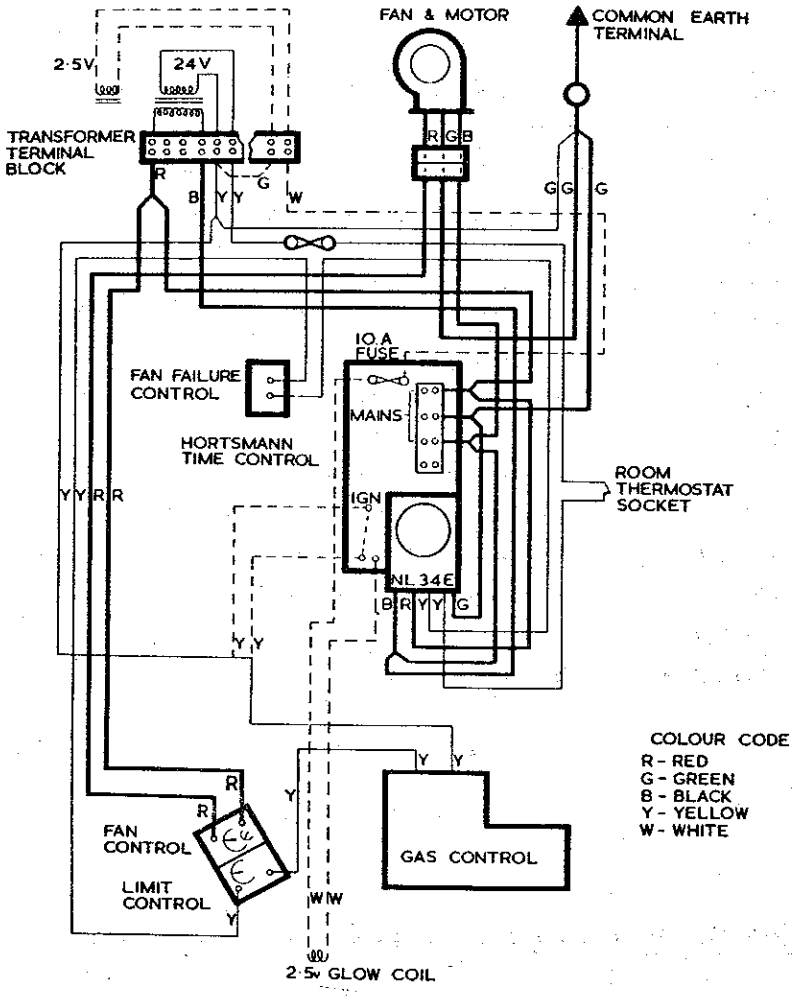
JGD 25V (JXD 25V) Conventionally flued Mk.IV					JGD 25V (JXD25V) BF and SE Mk.IV K				
GAS GROUP	INJECTOR SIZE		GAS PRESSURE		GAS GROUP	INJECTOR SIZE		GAS PRESSURE	
	IN.	MM.	IN. W.G.	MM. H_2O		IN.	MM.	IN. W.G.	MM. H_2O
G3	.197	5.00	1.5	38	G3	.128	3.30	1.8	46
G4	.197	5.00	1.8	46	G4	.128	3.30	2.2	56
G5	.197	5.00	2.1	53	G5	.142	3.60	1.7	43
G6	.213	5.40	1.9	48	G6	.142	3.60	2.0	51
NAT	.098	2.5	6.5	165	NAT	.070	1.80	6.1	155
PROP					PROP				

INPUT	33.000 Btu/h. (8.310kcal/h. 9.67kW/h)	GAS RATE	TOWN GAS	66 cu. ft/hr.
OUTPUT	25,000 Btu/h. (6.300kcal/h. 7.23kW/h)		NATURAL GAS	33.cu. ft/hr.

12. WIRING DIAGRAMS



JGD 25v WITH HONEYWELL S876AB FAN TIME SWITCH



JGD 25v WITH HONEYWELL L4068C FAN SWITCH

SPARE PARTS FOR MODELS JGD25vC MKIV AND JGD25vBF & SE MKIV K DOWNFLOW

SELECTIVE WARM AIR HEATERS

G. C. NUMBER	MAKERS PT. NO.	DESCRIPTION		QTY.
38. 85. 72	71D2T	Air circulating fan with integral motor. Amp-lok cap and earth wire. BOS. 106 Airflow Developments.		1
		Westool Transformer 20VA. 24 Volt. Type TD-77-A4P1. BOS. 372	Alternatives	1
23. 35. 05		Honeywell type RWD589 20VA. 24 Volt		1
38. 50. 75	L4069C 1066	Honeywell Overheat Limit Control (Lower Location) BOS. 105.		1
	T29/3390	Otter Limit Control (Upper Location) BOS. 141		1
22. 95. 49	L4068C 1026	Honeywell Fan Control BOS. 104		1
	S876AB	Honeywell Fan Timer Switch BOS. 382	Alternatives	1
	423 EMERALD	Horstmann Time Control BOS. 310		1
22. 95. 02	JGD25/770Z	Lighting Port Cover		1
39. 01. 38	Q309A. 1236	Honeywell Thermocouple 30" long BOS. 36		1
	BOS. 290	Burner Bar Assembly (Polidoro–Multi Gas)	JGD25vC Mk.IV Only	1
	BOS. 290/3	Main Injector–Towns Gas–Gas Groups 3, 4 & 5		1
	JGD25v/MkIV/755Z	Main Injector–Towns Gas–Gas Group 6		1
	255SW.	Thermostat Plug and Socket		1
	BOS. 384	Glass Fuse 2 amp rating 1¼" long.		1
22. 95. 80	BOS. 139	Heat Exchanger Gasket (Asbestos Foil Faced) 6 11/16"–dia. x 1/8".		1
22. 95. 83	BOS. 97	Heat Exchanger Gasket (Asbestos) 6 11/16" od. x 5 1/8" id. x 1/8"		1
22. 95. 84	BOS. 98	Heat Exchanger Gasket (Asbestos) 8" od. x 6 23/32" id. x ¼".		1
		Alternative for JGD25vBF & SE Mk.IV K only.		
	BOS. 356	Burner bar assembly (Kettling-Multi-Gas)	JGD25vBF & SE Mk.IV K	1
	BOS. 491	Main injectors–Towns Gas–Gas Groups 3&4		2
	BOS. 493	Main injectors–Towns Gas–Gas Groups 5&6		2
23. 35. 05	RWD667	Honeywell Transformer 20VA. 24 Volt and 2. 5 Volt.		1
	388700F1	Honeywell Glow Coil Assembly		1
22. 95. 58	2PL-9004	Honeywell Micro Switch		1
	BOS. 369	Glass Fuse 10 amp Rating 1¼" long. (Radio Spares) to BS.2950A.		1
		Alternative Items required for Natural Gas Heaters		
	BOS. 290/3A	Main injector for JGD25vC Mk.IV		1
	BOS. 492	Main injector for JGD 25vBF & SE Mk.IV K		2
	390686/4	Pilot Injector. Honeywell BCR.18		1
	42000233/001	Gas Governor Spring.		1

Johnson & Starley Ltd Rothersthorpe Crescent, Northampton NN4 9JF
Telephone: 62881-6