

G350/1 OPEN TOP RANGE G350/2 SOLID TOP RANGE

INSTALLATION and SERVICING INSTRUCTIONS

These Appliances must be installed and serviced by a competent person as stipulated by the Gas Safety (Installation & Use) Regulations.

IMPORTANT

The installer must ensure that the installation of the appliance is in conformity with these instructions and National Regulations in force at the time of installation. Particular attention **MUST** be paid to -

**Gas Safety (Installation & Use) Regulations
Health And Safety At Work etc. Act
Local and National Building Regulations
Fire Precautions Act**

**Detailed recommendations are contained in
Institute of Gas Engineers published
documents :
IGE/ UP/ 1, IGE/ UP/ 2, BS6173 and BS5440**

These Appliances have been CE-marked on the basis of compliance with the Gas Appliance Directive for the Countries, Gas Types and Pressures as stated on the Data Plate.

On completion of the installation, these instructions should be left with the Engineer-in-Charge for reference during servicing. Further to this, The Users Instructions should be handed over to the User, having had a demonstration of the operation and cleaning of the Appliance.

IT IS MOST IMPORTANT THAT THESE INSTRUCTIONS BE CONSULTED BEFORE INSTALLING AND COMMISSIONING THIS APPLIANCE. FAILURE TO COMPLY WITH THE SPECIFIED PROCEDURES MAY RESULT IN DAMAGE OR THE NEED FOR A SERVICE CALL.

PREVENTATIVE MAINTENANCE CONTRACT

In order to obtain maximum performance from this unit we would recommend that a Maintenance Contract be arranged with FALCON SERVICE LINE. Visits may then be made at agreed intervals to carry out adjustments and repairs. A quotation will be given upon request to the FALCON SERVICE LINE contact numbers below.

Falcon Foodservice Equipment

HEAD OFFICE AND WORKS

PO Box 37, Foundry Loan, Larbert.
Stirlingshire. Scotland. FK5 4PL

AFE SERVICE CONTACT -

PHONE - 01438 751111 FAX - 01438 369900

RZZ 242 Ref.1

SECTION 1 - INSTALLATION

UNLESS OTHERWISE STATED, PARTS WHICH HAVE BEEN PROTECTED BY THE MANUFACTURER ARE NOT TO BE ADJUSTED BY THE INSTALLER

1.1 MODEL NUMBERS, NETT WEIGHTS and DIMENSIONS

MODEL	WIDTH mm	DEPTH mm	HEIGHT mm	WEIGHT kg	WEIGHT lbs
G350/1	700	650	870	97	214
G350/2	700	650	870	109	242

1.2 SITING

The range can be positioned to within 20mm of a combustible wall, but to enable in-situ removal of the side panels for servicing, a clearance of 75mm at the back, and 150mm at the sides should be allowed. There should be a minimum vertical clearance of 900mm above the top edge of appliance flue to any overhanging combustible surface.

Important

If the appliance is to be installed with other matching appliances of the Falcon 350 Series the instructions for all units must be consulted to determine the necessary clearance to any combustible rear wall or overlying surface. Some appliances require greater clearances than others, and the largest figure quoted in the individual instructions will therefore determine the clearance for the complete suite of adjoining appliances.

1.3 VENTILATION

Each unit must be installed on a firm level floor in a well lit draught-free position.

Adequate ventilation, whether natural or mechanical, must be provided to ensure sufficient fresh air for combustion and for removal of combustion products. Recommendations for ventilation for Catering Appliances are given in BS 5440.

EQUIPMENT	Ventilation Rate Required	
	m ³ /min	ft ³ /min
Range, Unit Type	17	600
Pastry Oven	17	600
Fryer	26	900
Grill	17	600
Steak Grill	26	900
Boiling Pan	17	600
Steamer	17	600
Sterilizing Sink	14	500
Bains Marie	11	400
Tea/ Coffee Machine	8.5 - 14	300 - 500

Installation should be made in accordance with local and/or national regulations applying at the time, and a competent installer must be employed.

The appliance flue discharges vertically through the grille at the rear of the hob. There must be no direct connection of the flue to any mechanical extraction system or the outside air. Siting the appliance under a ventilated canopy is the ideal arrangement.

1.4 GAS SUPPLY

The incoming service must be of sufficient size to supply full rate without excessive pressure drop. A gas meter is connected to the service pipe by the local Gas Region (or local Gas Region Contractor). An existing meter should be checked, preferably by the Region to ensure that the meter is adequate to deal with the rate of gas supply required.

Installation pipework should be fitted in accordance with IGE/UP/2. The size of the pipes from the meter to the appliance must be not less than that of the appliance inlet connection, Rc¹/₂ (1/2" BSP female). An isolating cock must be located close to the appliance to facilitate shutdown during an emergency or routine servicing. The cock must be easily accessible to the user.

1.5 ELECTRICAL SUPPLY

Not applicable on this appliance.

1.6 WATER SUPPLY

Not applicable on this appliance.

1.7 TOTAL RATED HEAT INPUTS - NATURAL and PROPANE GAS

Model	kW	Btu/hr
G350/1	23.75	81,000
G350/2	11.9	40,600

INDIVIDUAL BURNER HEAT INPUTS NATURAL and PROPANE GAS

Burner	kW	Btu/hr
Open Top	4.75	16,200
Solid Top	7.7	26,300
Oven	4.75	16,200

1.8 INJECTOR SIZES - NATURAL and PROPANE GAS

Dimensions in mm	NATURAL GAS		PROPANE GAS	
	MAIN	PILOT	MAIN	PILOT
Open Top	ø1.8	-	ø1.1	-
Solid Top	ø 2.4	SIT 36	ø1.4	SIT 19
Oven	ø 1.8	-	AMAL 170	-

1.9 GAS PRESSURE

	mbar	inches w.g.
NATURAL	15	6
PROPANE	37	14.8

The pressure test point is fitted to the thermostat which is sited behind the front facia panel (see Figure 6).

An adjustable governor (Rc¹/₂) is provided on natural gas units.

Do not use a governor on propane units.

1.10 BURNER ADJUSTMENT - NATURAL and PROPANE GAS

1.10.1 Open Top

The burners are fitted with fixed injectors and aeration settings. No adjustment is necessary.

Open Top Bypass Rate

The minimum gas flow to the burner is governed by the size of the fixed drilled hole in the by-pass screw fitted to the gas tap. The orifice size in the screw is ø0.95mm for NATURAL Gas and ø0.6mm for PROPANE.

1.10.2 Solid Top

The burner is fitted with fixed injectors and aeration settings, and no adjustment is necessary.

1.10.3 Oven

The oven burner also has a fixed injector. The aeration should be factory set. Check that it is as shown on Figure 1 and reset if necessary. The aeration gap for NATURAL and PROPANE GAS is 7mm as illustrated in Figure 1 below.

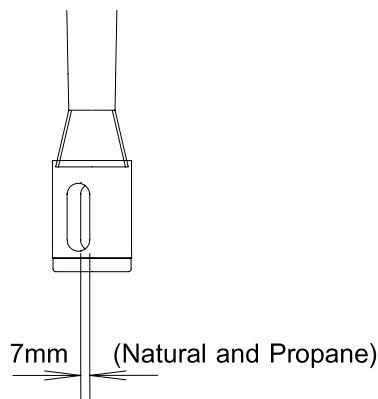


Figure 1

The oven burner aeration screw is located in the throat of the burner below the loose oven base panel.

Oven By-Pass Rate

The minimum gas flow to the oven burner is governed by the size of the fixed drilled hole in the by-pass screw fitted to the thermostat. The orifice size in the screw is ø0.6mm for natural gas and ø0.4 for propane operation.

SECTION 2 - ASSEMBLY and COMMISSIONING

2.1 ASSEMBLY

Place the unit in position and level it using the feet adjusters. The feet are provided with holes enabling them to be screwed to the floor, and it is essential to effect this operation on both models.

Open the oven door, pull out the shelves and loose base panel. Check that the burner, spark igniter and flame failure arrangements are correctly located and securely fixed. Replace all parts in reverse sequence.

On G350/1 appliance check the open-top burner assemblies, pan supports, spillage deflectors and spillage trays may be packed separately inside the oven compartment.

The spillage tray slides through an aperture in the front facia panel, beneath the control knobs (open top appliances only).

The side spillage deflectors have a raised edge. These engage below the fixed vitreous enamelled side trims.

The burner lower bodies and injectors on Open Top models are fixed and DO NOT require adjustment.

The burner upper bodies and heads fit loosely on to their respective bases which protrude through the drip sheds.

On G350/2 appliances, check the solid top by removing the bullseye and filling plates. Remove any loose packing and replace fillings etc.

2.2 CONNECTION TO THE GAS SUPPLY

The gas supply piping and connection to the appliance must be installed in accordance with the various regulations listed on the cover of the manual. On NATURAL GAS appliances, the adjustable governor supplied MUST BE FITTED in the supply, being securely fixed in a position enabling adjustments to be made during commissioning. On appliances burning PROPANE gas, a governor MUST NOT be fitted.

2.3 CONNECTING THE ELECTRICAL SUPPLY

Not applicable to these appliances.

2.4 CONNECTING THE WATER SUPPLY

Not applicable to these appliances.

2.5 PRE-COMMISSIONING CHECK

After connecting to the gas supply, fit a pressure gauge to the pressure test point (see Installation, section 1.9) and check the entire installation for gas soundness. Purge air from the system, and light the burners in accordance with the appropriate section below.

Check the gas pressure on the gauge, and adjust the governor if necessary. Remove the screwed cap on the governor, and turn the screw inside. Clockwise to increase pressure, and vice-versa.

When satisfied the pressure is correct, re-fit the governor cap.

2.5.1 Oven Burner

Check that the oven burner lights readily from the spark igniter, and allow the oven to heat up at 270° C for about 20 minutes, then turn the thermostat knob back to 120° C, and observe that the burner flame reduces to the by-pass rate. Check the oven burner aeration setting (as detailed in section 1.10.3).

To Light The Oven Burner

Proceed as follows:

1. Open the oven door, thus gaining access to the flame-failure and igniter buttons.
2. Push in, and turn the thermostat knob anticlockwise to the 270° C setting
3. Push in the flame-failure button, and keep it depressed.
4. Push the igniter button, whereupon the burner should light. If it does not light immediately, repeatedly depress and release the igniter button until it does.
5. Keep the flame-failure button depressed for about 15 seconds, then release it. The burner flame will now increase to maximum, and the oven doors can be closed, and the thermostat knob turned to the desired setting.

To Turn the Oven OFF

Push in, and turn the thermostat knob fully clockwise to the OFF position.

2.5.2 Solid Top Burner

On a solid-top appliance, check that the hotplate burner lights readily from the pilot, and that the thermocouple stays energised when the burner is turned down to the low setting on the control tap.

Warning

If the pilot be extinguished intentionally or unintentionally no attempt to re-light the gas should be made until at least 3 minutes have elapsed.

To Light The Burner

Proceed as follows (Refer to Figure 2):

1. Remove the solid top centre ring, using the special tool provided.
2. Have a lit taper or match ready in one hand.

3. With the other hand push in the control knob and turn it anti-clockwise till the mark on the knob is opposite the ignition symbol.
4. Apply the light to the pilot, still keeping the knob pushed in.
5. After about 20 seconds, release the knob. The pilot should remain alight. If not, push in the control knob and turn clockwise to the OFF position. Wait 3 minutes, then repeat from step 2.
6. With the pilot flame established, replace the solid top centre ring.
7. Push the knob in again, and turn it anti-clockwise to the FULL FLAME symbol thus lighting the burner.
8. If desired, the burner can be turned down to the LOW, or SIMMER setting by further depression of the knob and turning it fully anti-clockwise to the small symbol.

To Turn The Burner OFF

9. To turn off the main burner, but leaving the pilot lit, push in the knob and turn to the ignition symbol.
10. To turn off the main burner and the pilot, push in the knob and turn to the OFF position.

Note

It will be seen from the above detailed instructions that every turning movement of the knob has to be preceded by pushing it in.

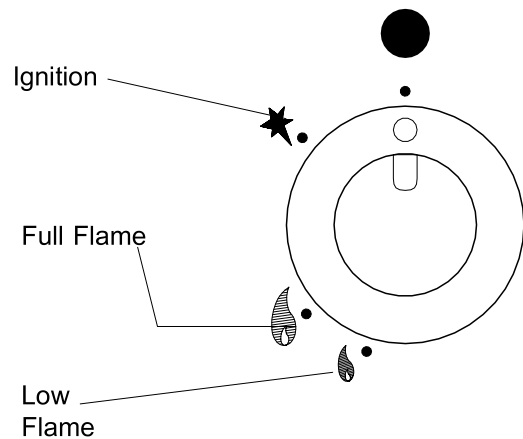


Figure 2

2.5.3 Open Top Burner

The gas taps are of the safety type.

To Light A Burner (Refer to Figure 3)

First identify the appropriate tap by observing the marker on the fascia panel. Push the tap inwards then turn anti-clockwise to the FULL FLAME position whilst applying a lit taper or match to the rim of the burner head. Hold the control knob in for up to 20 seconds in order for the flame failure device to engage. The knob can then be turned further anti-clockwise to reduce the flame if desired.

To Turn The Burner OFF

Simply turn the knob clockwise as far as it will go.

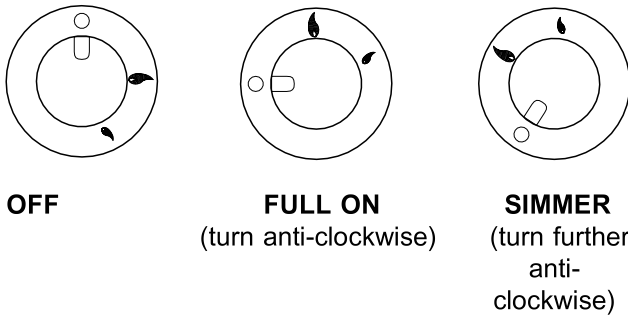


Figure 3

2.6 INSTRUCTION TO USER

After installing and commissioning the appliance, please hand the User's Instructions to the user or purchaser and ensure that the person(s) responsible understands the instructions for lighting, cleaning and correct use of the appliance. It is important to ensure that the location of the gas isolating cock is made known to the user, and that the procedure for its operation in an emergency be demonstrated.

SECTION 3 - SERVICING and CONVERSION

Important

BEFORE ATTEMPTING ANY SERVICING, ENSURE THAT THE ISOLATING COCK IS TURNED OFF AND CANNOT BE INADVERTANTLY TURNED ON.

AFTER ANY MAINTENANCE TASK, CHECK THE APPLIANCE TO ENSURE THAT IT PERFORMS CORRECTLY AND CARRY OUT ANY NECESSARY ADJUSTMENTS AS DETAILED IN SECTION 1.

After carrying out any servicing or exchange of Gas carrying components -

ALWAYS CHECK FOR GAS SOUNDNESS!

3.1 GAS CONVERSION CHECK LIST

For conversion to NATURAL GAS, add the correct governor and set burner pressure.

For conversion to PROPANE GAS, remove the governor from the gas circuit.

Other considerations :

CHANGE INJECTORS

CHANGE BY-PASS SCREW

CHANGE DATA PLATE

3.2 REMOVAL OF CONTROL PANEL

Turn gas off at isolating cock. Remove control knobs and unscrew the two M5 pozidriv screws retaining the fascia panel. Pull the fascia panel forward while slightly easing the bottom edge upwards and clear of the control spindles.

3.3 BURNERS

3.3.1 Open Top Burners

Remove the pan supports from the hob.

Remove the burner head and top body, together with the burner drip shed.

To remove the lower body of the burner from the respective pipework, undo the injector holder grub screw in the top of the relevant burner neck.

Undo the nuts which secure each burner lower body to the support.

Remove the support by lifting it clear of the burner bodies. Remove the burner body by pulling it away from the injector holder.

Replace in reverse order.

3.3.2 Solid Top Burners

To remove, proceed as follows:

- Remove the cast iron solid top plates.
- Undo burner supply pipe nut (at the burner), using two $\frac{3}{4}$ " or 19 mm open-ended spanners through the slot in the panel.
- Remove the three screws which secure the burner in position.
- Push the injector end of the burner rearward and lift the burner upward through the support panel hole.
- If desired, the injector can now be unscrewed from the burner.

Replace all parts in reverse order. Check for gas soundness.

3.3.3 Oven Burner

To remove, proceed as follows:

- Open oven doors, and remove oven shelves, base plate and the cover over the flame failure device.
- Undo thermocouple gland nut at the flame failure device, also slacken the screws which secure the thermocouple to the base. Turn the two clips clear.
- Pull off the spark igniter lead at the burner.
- Undo the fixings which secure the burner support bracket. Push rearward to clear the injector and lift clear. If desired, the injector may now be removed by unscrewing it from its mounting.

Replace all parts in reverse order, and check for gas soundness.

3.3.4 Pilot Burner (Solid Top Only)

To remove, proceed as follows:

- Remove hotplate components.
- Remove solid top burner as detailed in section 3.3.2.
- Remove the screw which secures the pilot burner bracket to the cross member.
- Lift the assembly upwards sufficiently to enable the supply pipe and thermocouple to be disconnected.

Note

When withdrawing the pilot pipe, the injector will also be removed, take care not to lose it.

- e) Remove the fixings which secure the pilot burner to the bracket.

Replace in reverse order. Test for gas soundness before re-fitting the hotplate components.

Note

Although a pilot adjusting screw is provided on the control valve, it is not necessary to restrict the flow. The screw should be opened sufficiently to admit full flow to the pilot.

3.4 INJECTORS**3.4.1 Open Top**

Remove the pan support and drip shed as detailed in Section 3.3.1

Undo the injector from the respective holder using a 14mm ring spanner. Ensure the injector holder remains in a steady position. Replace in reverse order.

3.4.2 Oven and Solid Top

Injectors are accessible for removal upon removal of the burners.

3.5 FLAME FAILURE DEVICE**3.5.1 Oven**

To remove, proceed as follows -

- a) Remove the oven burner as detailed in Section 3.3.3.
- b) Loosen the union nut which secures the gas supply pipe to the flame failure device. (at front of unit)
- c) Remove the screws which secure the injector bracket to the base panel. Lift the assembly clear.

The FFD embodies a thermocouple heated directly by the burner flames, i.e. no pilot is used.

The correct relationship between the thermocouple probe and the burner is shown in Figure 4. When the FFD button is depressed for lighting the burner, gas is admitted to the burner at a reduced rate. Once the thermocouple probe has been sufficiently heated to enable the FFD to become energised, the full gas rate flows on releasing the button.

3.5.2 Open Top

Remove the pan support and drip shed as detailed in Section 3.3.1. Undo the thermocouple connection at the FFD section of the gas tap.

Undo the nut in the top which secures the thermocouple to the burner support. Pull the thermocouple through the support underside.

Replace in reverse order.

3.5.3 Solid Top

The flame failure thermocouple is part of the pilot assembly. See Section 3.3.4.

3.6 SPARK IGNITER

To remove, proceed as follows:

- a) Remove the oven grid shelves and base plate.
- b) Remove the cover over the FFD and igniter.
- c) Pull off the igniter lead, and from inside, remove the hexagon nut holding the igniter.

Replace in reverse order, checking that the oven burner ignites from the spark. If adjustment of the spark-gap is necessary, adjust the electrodes to the dimensions shown in Figure 5.

3.7 OVEN THERMOSTAT**3.7.1 Thermostat Replacement**

To remove, proceed as follows -

After removing the control panel. Loosen the compression nut on the gas supply pipe at the rear of the thermostat.

Undo the two hex nuts securing the thermostat. Free the thermostat sensor from its clips on the roof of the oven and feed the capillary tube and sensor back through the hole in the roof into the upper compartment. The thermostat can now be removed from the appliance.

N.B. Replace in reverse order always ensuring that a new gasket is used and the joints are tested for gas soundness

3.8 GAS TAPS**3.8.1 Open Top**

Remove the control panel as per section 3.2.

To Service

Remove the two screws from the front of the tap body and withdraw the spindle and niting arrangement thus allowing the plug to be eased out.

To Clean and Re-grease a Tap

First dismantle the tap by removing the single retaining screw on the front, then push in, and rotate the spindle anti-clockwise until the niting pin is free.

Withdraw the spindle and centre plug, taking care not to lose the small compression spring. Clean all parts with a soft rag, and sparingly re-grease the plug with an approved high temperature grease is recommended. Also apply grease to the operating spindle where it enters the plug.

Note

Tap plugs and bodies are made in matched pairs - DO NOT INTERCHANGE.

Replace in reverse order.

To Remove

Undo the brass nut at the compression fitting on the supply pipe at the rear of the gas tap.

Remove the thermocouple connection from the FFD section of the tap.

Undo 2 x M5 hex head saddle mounting screws and gently remove the tap from the supply manifold.

Before refitting the tap to the float rail, check the serviceability of the rubber sealing washer. If in doubt, fit a new washer.

Re-fit all parts in reverse order, checking for gas soundness.

3.8.2 Burner Control - Solid Top

This is a combined gas tap and flame failure device. The tap has four indented positions, i.e. off, ignition, full on, and simmer.

Adjusting screws are provided for regulating the pilot, and simmer flame.

To Remove

Proceed as follows:

- a) Pull off all control knobs and remove the fascia panel as described in section 3.2.
- b) Remove hotplate components.
- c) Undo the burner supply pipe union on the rear of the control.
- d) Remove the 2 set screws clamping the control to the circular float rail tube.
- e) Withdraw the control forward slightly to enable the pilot supply pipe and thermocouple union nuts to be loosened.

To clean and lubricate the tap, proceed as follows:

- f) Remove the two slotted screws holding the front securing plate, holding the plate against the internal spring pressure.
- g) Carefully withdraw the plate, complete with operating spindle.
- h) Withdraw the exposed rod, spring, brass washer and sealing washer. Take care not to lose any of these small parts.
- j) Withdraw the plug.

Clean the plug with a soft rag, also the mating hole in the control body. Sparingly re-grease the plug with an approved heat-resistant grease.

Re-assemble strictly in reverse order, taking care with the central pin assembly, i.e. fit the spring to the pin first, then the brass washer, and finally the sealing washer. When inserting into the plug, ensure that the sealing washer fits snugly in the recess at the bottom of the hole in the plug. When re-assembling the operating spindle, ensure that the niting-pin engages in the slot in the plug.

The LOW FLAME setting is adjustable by means of a screw on the front of the control (See Figure 5).

If it is necessary to adjust the flame, adopt the following procedure:

- k) Turn the screw fully clockwise as far as it will go, then unscrew about a quarter to a third of a turn.
- m) Light the burner, and turn to the LOW setting.
- n) Observe the flame, and if necessary turn the screw very slightly to obtain a satisfactory condition, turning anti-clockwise to increase the flame, and vice-versa. Aim to achieve the lowest possible stable flame, i.e. not tending to extinguish.

Low Flame Setting Screw

Figure 5

3.9 GOVERNOR

This applies to NATURAL GAS UNITS ONLY.

The type of governor used will normally require little servicing. The air breather hole should be checked for dirt blockage.

Always re-check the pressure at the test point after governor maintenance.

3.10 DOORS

To renew a door seal, pull off the old seal, complete with the stainless steel retaining channel.

The new seal is supplied complete with clips. Fit the clips through the hole in the channel, and push into the holes in the door. Tuck the ends of the seal into the holes.

After fitting new seals, it may be necessary to adjust the fit of the doors, by removing or adding shims to the hinges and ball-catch keeper. To gain access to the upper hinges and keeper it is necessary to remove the fascia panel (see section 3.2).

SECTION 4 - SPARES

When ordering spare parts, always quote the appliance type and serial number. This information will be found on the data badge attached to the rear of the hob upstand. A list of items available can be found in the accompanying spares section of the document pack.