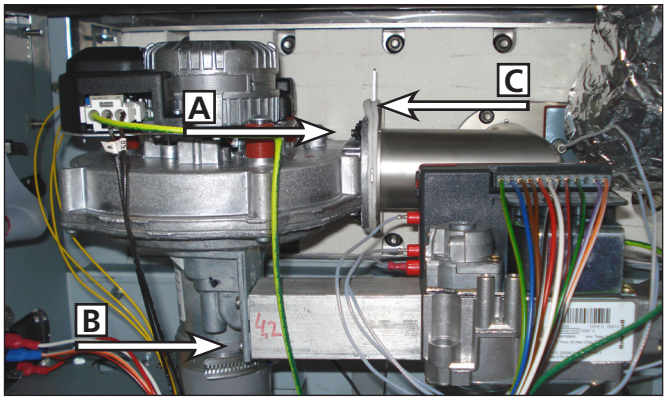
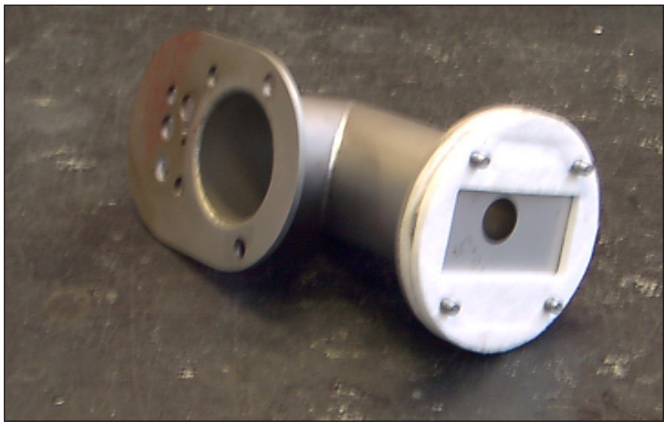
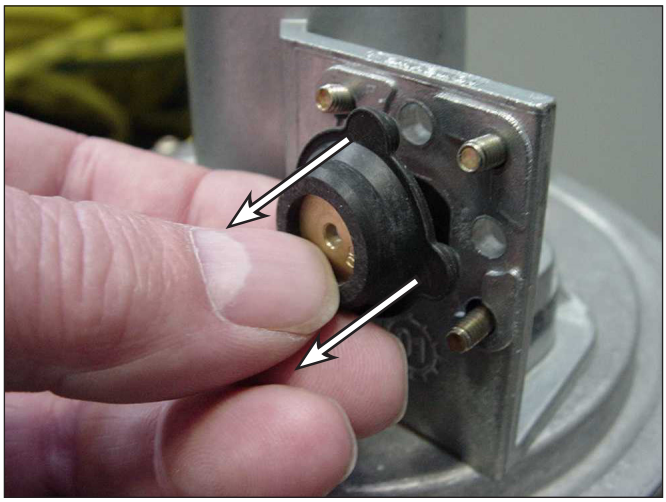
INSTRUCTION FOR CONVERTING GAS ROTISSERIE FROM NATURAL GAS TO PROPANE OR FROM PROPANE TO NATURAL GAS.

This documentation can also be found in the service manual STG 7 P gas fired rotisserie oven, page 22 until 29.

CHANGING AN ORIFICE AND AIR INLET







1. Remove the right side panel and replace the indication plate for the new gas.
2. Remove the wiring from the top of the gas mixture blower. Remove the silencer.
3. Remove the four nuts from the air inlet (A) and the 4 long screws from the gas mixture blower (B). Remove the gas mixture blower.
4. Remove the gasket and air inlet from the coupling tube and replace the air inlet (text visible from right hand side (C)).
5. Take the rubber holder with the orifice plate out of the metal where it is positioned by 2 rubber notches, which fit in the holes of the plate.
6. Carefully replace the orifice disc by a disc with the desired opening. Put the rubber holder against the plate. See to it that the notches fit in the opening. Bring the parts in position and mount the 4 long screws and nuts.
7. Replace the silencer and connect the wiring.
8. Check for tied fitting with help of soapy water or spray.

G20/25: orifice is 4.2 mm (1/6”). Air inlet is 18.1 mm (3/4”).
G 31: orifice is 3.4 mm (1/7”). Air inlet is 16.5 mm (2/3”).

ADJUSTING OF THE POWER FOR NATURAL GAS AND PROPANE

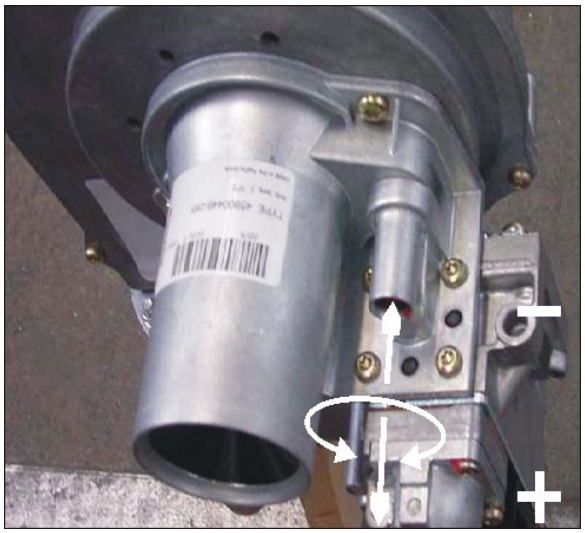
Warning: **Adjusting of the power is only allowed by a skilled installer and in exceptional cases when toxic measuring devices and flow meters are available. For more information see installation manual.**

When a total re-adjustment of the power is necessary then turn the setting screw al the way in, to its end position, by turning it in clockwise direction. Then turn the setting screw open:

Natural gas: for **4** full turns (360°) turning in counter clockwise direction. Now start the rotisserie and measure the high speed adjustment on the speed control board, see next page. After the temperature has reached about 150 °C (300°F) measure the toxicity of the exhaust air on top. For values see the last page.

Propane gas: for **3.5** full turns (360°) turning in counter clockwise direction. Now start the rotisserie and measure the high speed adjustment on the speed control board, see next page. After the temperature has reached about 150 °C (300°F) measure the toxicity of the exhaust air on top. For values see the last page.

LP gas: for **2.5** full turns (360°) turning in counter clockwise direction. For continuation see Propane gas.



Note 1: You can decrease or increase the CO2 value by turning the setting screw in steps of a quarter turn.
Clockwise to decrease the CO2 value.
Counter clockwise to increase the CO2 value.
Total deviation cannot be more than half a turn!

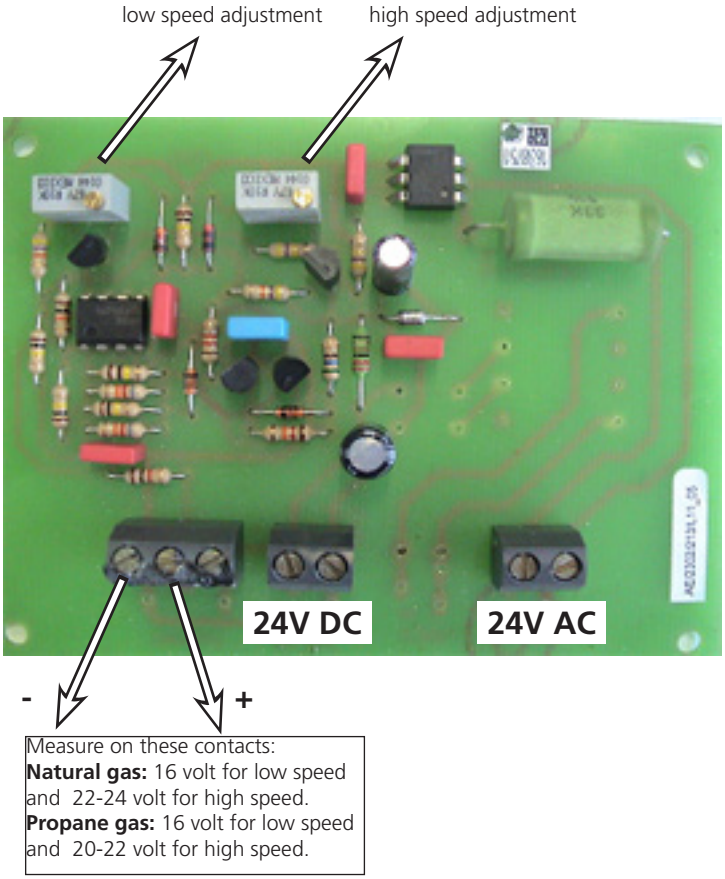
Note 2: You can decrease or increase the gas consumption/flow by turning the high speed potentiometer in steps of 1V.
Clockwise to increase gas consumption/flow.
Counter clockwise to decrease the gas consumption/flow.
Total deviation cannot be more than 2 Volts!

Note 3: You can decrease or increase the gas consumption/flow by turning the setting screw in steps of a quarter turn.
Clockwise to increase gas consumption/flow.
Counter clockwise to decrease gas consumption/flow.
If you change the gas consumption/flow in this way you have to do this together with the high speed potentiometer in steps of 1V in opposite way. This in order to keep the balance in the CO2 value.
After this change you always have to measure the toxicity and adjust if necessary.

Note 4: During and after the adjustment you have to check the gas consumption/flow by means of a flow meter.

ADJUSTMENT OF BOARD FOR SPEED/POWER REGULATION

The rotisserie starts up with low speed turning of the gas mixture blower. This low speed is adjusted with the potentiometer on the top side of the board. This tension should be around 16V DC and has to be measured on the top connections.
For this adjustment you only have about 2-3 seconds. If the time is too short then start the unit up again.



After ignition, when the gas is burning, the gas mixture blower switches to high speed and maximum power.
With the potentiometer on the bottom side you can adjust the power/gas consumption and with that also the high speed. This tension should be 22-24V DC for Natural gas and 20-22V DC for Propane gas and has to be measured also on the top connections.
Note: The tension for the highest speed is the same as the supply voltage of 31V! After this it has no use turning the potentiometer up.

Instructions for measuring low and high speed.

1. Select a program and press the start key.
2. Now you can measure the low speed voltage of 16 Volts for the blower.
3. Once the burner is on the Honeywell burner control generates the signal for the blower to switch to high speed. Now you can measure the Voltage for the high speed.

FLUE GAS ANALYSER

With the flue gas analyser you can measure the exhaust gas on the rotisserie for toxicity.
With the use of a Testo 330-1LL you get the following measurements as indicated in example:

Testo 330-1LL			
V1.21		01297080	
100035026		G 20	
06.04.2007		12:42:13	
Fuel:		Natural gas	
O2 ref.:		3.0%	
CO2 max:		11.7%	
5.2	%	Oxigen	
8.8	%	CO2	
1.33		Lambda	
5	ppm	CO	
0.01		GI	
26.7	%	qR	
73		efficiency	
130	°F	dew point	54°C
713	°F	Exhaust gas temp.	378°C
74	°F	Ambient temp.	23°C

The 2 most important values are the CO2 percentage and the exhaust gas temperature.
CO2% G 20/25 between 8.8 - 9.2%
CO2% G 31 between 10.2 - 10.6%
Exhaust gas between 698 - 788 °F (370 - 420 °C)

Gas consumption.

G 20 (Natural gas)	0.89 cfm	(1.51 m3/h)
G 25 (Natural gas)	1.01 cfm	(1.71 m3/h)
G 31 (Propane)	0.32 cfm	(0.55 m3/h)
LP gas	0.30 cfm	(0.50 m3/h)