UNIQUE
Gas Products Ltd.

TOP 10 Tips for Troubleshooting the Consul Fridge

(these tips can be used as a general guide for all absorption appliances)

There are a few rules that must be followed when troubleshooting the Consul fridge. If these rules are followed most problems can & will be rectified. Listed are points that must be followed before trying to troubleshoot an absorption fridge. The following pages outline the Top Ten Tips, then explain "why" and "how" to troubleshoot.

1. Fridge is level
2. Ensure pressure is 11" W.C. (water column)
3. Burner must be cleaned
4. Orifice must be cleaned
5. Gas supply tube from thermostat to burner must be cleaned
6. Chimney & Boiler tube must be cleaned of debris
7. Deflector/Strangler must be cleaned of debris
8. Filter in Thermostat Gas control needs to be cleaned or replaced
9. Adequate ventilation around fridge
10. Thermocouple connections to be snug, not over tightened

To reduce problems during summer season, (i.e.. weekend use), it's best to leave the fridge running on low setting during the week. If shut down on a Sunday, spiders may seek the propane odor (mercaptin), and create a restriction of the gas flow. This in turn will reduce/stop the operational efficiency of your absorption fridge/freezers.

Note. Installation and service must be by licensed gas fitter in accordance with local codes or must comply with Propane Installation Code.

Please read the following for a detailed explanation and next page for the solution.

1. **Fridge is level.** The importance of leveling the fridge is to ensure that the solution in the absorption unit flows correctly so the mixing of the solutions are correct. Without proper leveling, you will not achieve a good cool down inside the fridge, and/or cause damage to the system.
2. **Ensure pressure is 11" W.C. (water column).** When gas pressure is low the following problems could exist - poor cooling, or fridge shutting down when switching to low flame. When too high the unit will overheat and failure will occur within 36 hrs
3. **Burner must be cleaned each time fridge is serviced.** A dirty burner will create carbon build up, along with carbon monoxide gases. It will also cause low heat to be produced from the flame, which in turn will cause poor cooling.
4. **Orifice must be cleaned each time fridge is serviced.** The orifice supplies the correct amount of gas flow to the burner, only of the pressure is correct to the orifice. If the orifice is clogged, the flame will be low and will cause poor cooling and thermocouple drop out at low fire (fridge shuts down).
5. **Gas supply tube (from outlet side of thermostat to orifice) must be cleaned each time fridge is serviced.** The gas supply tube leading from the thermostat gas control to the orifice/burner can become clogged with scale or debris. A clogged tube will also cause poor cooling and thermocouple drop out at low fire (fridge shuts down) due to low gas pressure leading to the burner.
6. **Chimney & Boiler tube must be cleaned of debris each time fridge is serviced.** Cleaning is required to avoid debris falling down the boiler tube and onto the strangler assembly and burner. With a clean chimney, this ensures less chance of overheating and carbon monoxide gases developing.
7. **Deflector/Strangler must be cleaned of debris each time fridge is serviced.** The deflector/strangler is a wire with a bend in the top, a disk shaped piece about a couple of inches down and a piece of flat metal bent in a spiral shape. The function of these pieces is to slow the rising heat to obtain a specified range of heat in the boiler tube, in turn obtaining the correct boiling temperature of the ammonia solution. If the saucer-shaped disk at the top of the deflector/strangler is dirty, it may block/impede the correct functioning of the chimney. This may not allow the proper temperature to be obtained, which in turn may over-boil the system.
8. **Filter in Thermostat Gas control needs to be cleaned or replaced approx every two years.** This filter is located at the inlet side of the thermostat gas control down stream of the On/Off valve. When this filter is clogged, it will slow the flow of gas to the gas control therefore causing low pressure to the burner (low flame).
9. **Adequate ventilation around fridge (clearance to combustibles).** It is imperative that there is adequate ventilation around the fridge for the absorption system to cool properly and allow proper operating temperatures within the cooling coil.
10. **Thermocouple connections be snug, not over tightened.** The thermocouple connection into the gas control and/or into the interrupter block needs to be tight, but not too tight as to damage the thermocouple and interrupter block insulator ring (black). If it's loose there will not be a sufficient connection, which will not allow the milli-voltage to transfer to the magnet, which in turn holds the gas valve open, allowing the gas to flow through to the burner.

Please read the following for a detailed solution.

1. Ensure the fridge is level by using a 2ft level and adjusting the feet at the bottom of the front or back of the fridge until desired level is reached
2. Using a Manometer, take the pressure at the inlet side on the on/off valve. It is important the pressure reads 11" WC, not lower or higher.
3. Each time the fridge is serviced, the burner must be cleaned. Use a small brush to clean out the burner tube to free it of any spider webs, use a wire brush to clean the screen of any build up that has clogged the screen, and finish by blowing it out with compressed air. This part is recommended to be replaced every 3-5 years, depending on it's environment. A new burner will produce a hotter, more intense flame.
4. Each time the fridge is serviced, the orifice must be cleaned by soaking it in isopropyl alcohol and then blowing it out with compressed air. If the sludge cannot be removed during cleaning, a new orifice must be installed. ***Do not stick any sharp object into the orifice - it will pop out the ruby and you will create incomplete combustion problems.***
5. Each time the fridge is serviced this "S" shaped tube needs to be removed and cleaned. Bang this tube against a hard surface to loosen the scale that builds up inside. After this, soak in isopropyl alcohol and proceed to run a pipe cleaner through the tube, followed by compressed air to help dislodge any dirt or spider webs. Compressed air will not remove spider webs on its own.
6. First lift off top chimney, and then remove the deflector/strangler. Take the chimney brush and clean the boiler tube to remove any scale built up in the tube. You **must** cover or remove the burner so no debris will fall onto it. Clean the chimney with the chimney brush. Reassemble
7. The length of the deflector/strangler from the bend at the top of the wire down to the bottom of the baffle should be 25 3/8" for all 2-Door models (CB2426, SC21F, CQE22A,B & D) - the 1-Door model length is 28 ¼" (*Models QM2808 – 58, with strangler hooked at he top of the boiler tube not the top of the chimney).* The baffle shaped disk can be cleaned at the edges with a fine file or emery cloth (a clean disk allows just the correct amount of restricted heat up the chimney).
8. To remove this filter, you must detach the on/off valve by putting one wrench on the on/off valve and the other on the floating nut. Once the on/off valve is removed, you must remove the union nipple with an Allen wrench/key (3/16"). You will then see a yellow colored filter - it is to be cleaned with isopropyl alcohol, or replaced with a piece of loosely packed cotton batten or the end from a cigarette filter loosened to the same consistency. The purpose of the filter is to stop sludge entering the gas control.
9. The specs required are under the section "Where to Locate your Refrigerator" in your manual **Caring for Gas Refrigerator** that was supplied with your fridge (small grey manual). Clearances for all Consul models are as follows.
   Facing unit for all models:
   Right Side & Top. 6"
   Left Side & Rear. 0"
10. When tightening the thermocouple connection into the gas control (for all models), tighten it to the point where you just start to get firm resistance. Do not over tighten, especially on the Consul CM where there is an interrupter block between the valve and the thermocouple connection.