The “FixIt” Manual

GAS GRILL REPAIR & MAINTENANCE

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Glossary of Terms

Air shutter -This is an opening in the burner venturi tube that connects the burner to the valve orifice. It is usually, but not always, adjustable. It should be partially closed for LP and mostly open for Natural Gas. Some cast iron burners have a bolt that screw into the neck of the venturi tube close to the opening in the air shutter. The bolt should be “in” more for LP and “out” more for Natural Gas. If your flame is blue and ignites as the gas leaves the burner, your air mix is good. A lazy yellow flame means not enough air, and the shutter needs to be opened more (or the bolt screwed out some). If the flame is "jetting" and ignites away from the burner (and may also "pop" out) you have too much air. Close the shutter some or screw in the bolt. Some burners have no adjustment and you would have to improvise a way to change the air mix. The cheaper grills made for LP might have this feature, which cost the factory less to make.

Cooking grid -These are made of porcelain coated cast iron, porcelain coated carbon steel rods, stainless rods (which can be in several grades) or chrome plated carbon steel. See stainless steel below.

Cross thread -If you do not screw a fitting together correctly, you will have cross threaded the pieces and probably ruined them. Take your time when starting the threads. I like to reverse them to get a feel for the fittings or bolts. And then slowly start turning usually clockwise to start. It will go in easily if it is threaded correctly. And, within a half turn, get hard to turn if it is cross threaded. *YOU DON”T WANT TO CROSS THREAD!!*

Drill bits (numbered) -These are used for drilling the gas valve orifices to a specific size. Which bit will depend on the BTU's required and the type of gas (LP or Natural Gas). Numbered drill bits are actually machine shop spec bits. These can sometimes be found in hardware stores and auto parts stores. You can easily find them on-line by typing in "numbered drill bits" from the search engine.

Electrode (collector box) -The electrode is the part that places the spark next to the burner. It is usually attached to a collector box. "Flame Thrower" type igniters (see below) have the electrode next to a tube which is close to the burner in order to ignite the burner.

"Flame Thrower" igniter - This is, mostly, a part of a "flame thrower" valve for a gas grill. Usually it is one piece and can't be replaced without changing the valve itself. Very few have the flame thrower detached from the valve and it is fed with an extra gas tube (for example: some Turbo grills).

Flare fitting - This is a type of gas connector with a noticeable concave end which is slanted “male” and goes into a "female" flared fitting. There are two other types of gas connectors: NPT (National Pipe Thread) and standard pipe thread with compression fittings. Hoses are commonly "crimped" on with a clamp that is squeezed by a machine. These cannot be removed without using a hose clamp and that may not be authorized by local gas codes (THE LAW).

Heat plate, flame tamer, flare guard, Lav-A-Grate - These are pieces of sheet metal which, sometimes, are very simple. Other times they can be waffled or bent funny. They are placed over the burners to disperse the heat and protect the burners (somewhat) from the meat fat that falls as you cook. They also help as a platform for the grease to burn and smoke flavor the meat.

Igniter (or Ignitor) - This is the part of the ignition system that you push or twist to light the grill. It can be a push button, twist knob, battery or "flame thrower" type that activates when you turn the control knob to light the grill.

LP Gas - Liquefied Petroleum - LP Gas is primarily propane but as with other fuels like butane which are under pressure, it is kept in bottles. This is so that we can have bottles that can be filled (steel) or small bottles that are disposable. The orifice holes are smaller than required for Natural Gas.

Manifold - A central pipe or brass piece that connects the grill valves.

Natural Gas - Natural Gas is Methane (CH4), which is piped to homes and businesses. In gas grills, Natural Gas requires different drill size holes than LP Gas.

OEM Parts - Original equipment manufactured parts.

Orifice - This is a nut that screws into the end of the valve that goes into the burner. It is sometimes called a spud or hood orifice. It always has a tiny hole for the gas to go through that is sized according to charts that are easy to find on line with a search phrase like (BTU drill charts). There are no common types of orifice except some use a common 1/8 NPT thread. The others are usually special threads. There are no adapters that will connect them to other valves.

Piezo - This is a type of igniter that is used to light grills. They require a twist of the knob or pushing the button. It is manual and doesn't require a battery.

Pipe thread - This term usually pertains to a NPT (national pipe thread) but could be used in relation to flared or compression fittings. Always be careful not to *CROSS-THREAD*, which can ruin a fitting (especially valves) I always start a thread by turning counter-clockwise first to be sure the male thread is seated right before starting.

POL LP gas connector - The older style connection is used to connect the LP regulator to the LP gas tank (usually a 20 pound tank). This was replaced by the QCC-1 fittings for safety reasons about 10 years ago. POL connectors are outlawed in many states.

Porcelain coated or porcelain matted - These are two types of porcelain coating for steel and cast iron. The enameled one is glossed and the matted one has a flat finish and might seem to be uncoated.

QCC-1 LP tank connector - This newer type of fitting is used to connect the LP regulator-hoses to a LP refillable tank. This was brought into use as an extra safety measure ten years ago and in response to an increasing danger form LP tank fires. As gas grills were becoming common, the danger of tank fires increased.

Regulator - A regulator is an aluminum gas fitting about the size of a small fist. It is used to control the gas pressure into the grill valves.

Rock grate - These are grids or grates that use to be universal for gas grills. These grids or grates sit over the burner with lava rock or ceramic rock. They spread the heat, catch the grease, provide smoke and protect the burner.

Round and spade connector- These are terms used to describe the wire connectors between the igniter and the electrode. They have a "male" and "female" piece. The spade is flat.

Stainless Steel - This is a type of metal alloy that comes in many grades. People often assume it means "no stain" but it is only “stain less”. Some grades are magnetic and some are "non

magnetic", depending on how much nickel or other non ferrous metal is used. The best is the 304 grade, but that grade can be more expensive. Stainless Steel will rust and stain, but not nearly as much as steel or iron.

Thermocouple - A thermocouple is a small metal probe attached to a burner and is connected by heavy wire to a safety valve. It is used in rotisserie burners.

Venturi - The venturi is a 'tube" that connects the burner to the valve. It is always secured to the burner. And, with cast iron burners, is sometimes cast with the burner in one piece. The open end slides over the valve orifice. It should not go in so far as to cut off the air shutter.