

The "FixIt" Manual

GAS GRILL REPAIR & MAINTENANCE

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Chapter 13 - LP to Natural Gas Conversion

“Animis opibusque parati”- prepared in spirit and resources- Roman proverb

Converting a grill to Natural Gas from LP is much easier than LP to Natural Gas. You still have to change the gas connection and drill out, or change the LP orifices to Natural Gas orifices. Since you have to change the LP to a Natural Gas hose and open the gas line, you must secure the gas lines and test the grill before using it. There is an immediate DANGER if you fail to check for leaks and test the burners (you have to remove them to get to the orifices) before putting the heat plates and grids back in. CHECK FOR LEAKS and TEST the grill!! Do not cross thread the orifices or gas connections either.

Many people buy LP gas grills and wish to convert them to Natural Gas. The market is saturated with LP grills which are usually cheaper, while Natural Gas grills are fewer and usually more expensive.

Sometimes the manufacturer will provide a conversion kit or have one available to order. Converting the grill to Natural Gas without a factory kit could violate the warranty. FAILURE TO CARRY OUT THE PROCEDURE IN A SAFE WAY COULD RESULT IN A FIRE AND INJURY.

If you haven't done this before you must research the procedure and be certain of the safety before beginning. If you search for “gas grill conversion” on the web, you'll find numerous sites with kits. You will also find websites by individuals who have successfully converted their grill from LP to Natural Gas.

Converting your grill from LP to Natural Gas requires changing the orifices (jets) on each valve. Most valves will work with LP or Natural Gas but some are made only for one or the other. The old Ducane grills will likely require changing the valves.

All of the holes in the valves are larger for Natural Gas than for LP, which is why it's harder to convert from LP to Natural. You might also find that, in converting from LP to Natural Gas, the low flame setting results in little or no flame. You can adjust for that by simply setting your low flame slightly closer to the medium setting.

Converting to Natural Gas usually doesn't require a regulator. However sometimes, when the pressure is more than 7 inches, a regulator might be needed. The LP regulator won't work for this and you'll have to get one from a heating supply store.

Since the orifices and other openings in the valves are smaller for LP you might be able to drill out the orifices without further adjustment.

The steps for converting a Home Depot Ducane Stainless steel grill from LP to Natural Gas are as follows:

1. Purchase or borrow numbered drill bits (you can use the conversion chart to buy just the drill bits you need-see the Anderson/Forrester Chart of Orifice Capacities in the back of this manual). You'll need a handheld bit driver or you could use a pair of vise grips to hand drill the orifice. An electric drill could easily break the small bits or damage the orifice.
2. Use the LP-Natural Gas BTU to numbered drill conversion chart to determine which drill bits you'll need for each orifice. If the grill spec plate doesn't show the individual BTU output per burner, you will have to do more research or guess using the total output of

the grill. The spec plate for the Home Depot Ducane grill shows each burner rating. You’ll have to use the drill bit that gets closest to the BTU output listed.

3. Starting with the front control panel, remove the two screws on each side and pull the panel carefully away from the front of the grill. Remove the burners from the main cooking area of the grill. You can actually drill out each orifice by placing the handheld drill bit holder with the correct bit from the inside of the grill through the burner hole. **DO NOT USE AN ELECTRIC DRILL!**
4. It is possible to drill the orifices without detaching the control panel but you can’t easily see the orifice and you can’t remove the burners in the Ducane without loosening the control panel. Drill out each orifice using the numbered drill bit with the handheld bit holder.

Side Burner Orifice

5. The orifice for the side burner is under the side burner shelf in front of the burner venturi. It will have to be removed carefully with wrenches to allow drilling.

Get to the Rotisserie burner

6. To get to the rotisserie burner you’ll have to remove screws on the back of the grill and inside the grill that hold the rotisserie burner in place. You will have to remove the orifice from the burner in order to get the drill bit in place.

Reattach all orifices

7. Reattach all orifices and any gas lines disconnected during this process. Be sure to check all fittings for leaks with the grill valves off but leaving the pressure on from the gas line. Also, check that the connections in the gas lines are opened with the grill valves on and burners lit.
8. Before putting the flame tamers back in, check your main burners for the correct flame (which should be blue) and that it is lit as soon as the gas exits the burner. Use the air shutter if the flame is yellow by opening. Closing the shutter will make the flame yellow and slower.
9. When you’re sure you have no leaks and the flames are consistent, you can put the grill back together and you’re ready for use.
10. **REMEMBER!** Converting your LP Gas grill to Natural Gas requires opening gas lines and safely reconnecting them. **FAILURE TO SAFELY DO YOUR WORK COULD RESULT IN FIRE AND INJURY!** If in doubt, get an appliance technician to do the work.

LP to Natural Gas Conversion Images



You can access the control panel by loosening the screws on each side. By pulling the panel away slightly you can pull the main burners out in order to access the main valve orifices. These Ducane-Home Depot grills are the only models that require control panel loosening to remove the main burner.



After loosening the front panel and removing the main burners you can drill the valve orifices with a drill in a manual holder through the front burner opening in the grill. **DO NOT USE** an electric drill. The drill bit will break.



The orifice for the side burner is under the side burner shelf in front of the burner venturi. It will have to be removed carefully with wrenches to allow drilling.



You'll need 2 wrenches to loosen the side burner orifices after removing the burner (which I didn't do here).



To get to the rotisserie burner you'll have to remove screws on the back of the grill and inside the grill that hold the rotisserie burner in place. You will have to remove the orifice from the burner in order to get the drill bit in place.



Use some wrenches to loosen and remove the rotisserie burner orifice to drill out with a 10000BTU #54 drill bit for Natural Gas.