

Portable Gas Barbeque and L P Gas Cylinder

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Pre-Operational and assembly Safety Check

1 ASSEMBLY

- a) Setup the BBQ outdoors in a well-ventilated space on a firm level ground. Ensure adequate separation to the sides 500mm and above 1500mm. Nearby an appropriate fire extinguisher (*Dry powder*), fire blanket and first aid kit containing burn's dressings.
- b) Carefully place gas cylinder in intended position ready for use, where fitted suspend from the BBQ frame. Ensure all BBQ burner knobs are in the OFF position.
 - Gas cylinder positioned to prevent tripping on.
 - Always keep LP gas cylinders upright.
 - Protect gas cylinder from physical damage.
 - Position the cylinders away from the heat of the BBQ cooking surface, flames, hot dripping fat and other sources of heat.

Important Ensure the safe setup and commissioning of the BBQ prior to operation referring to the BBQ User Checklist page 10.

- c) Replacement LPG gas cylinders are supplied with a removable plastic bung. Remove and check that the plastic seals are undamaged and the inside the cylinder outlet is clear of any dust/debris. Remove any dust/debris gently using a soft long bristled brush. Both the regulator and cylinder connector should be clean and dirt free prior to insertion.
- d) Attach the correct regulator to the cylinder. Tighten the regulator (*left-handed thread*) spigot wing nut firmly by hand, or where fitted with Hex nut fitting firmly tighten with appropriate spanner.

Important

Do not overtighten gas fittings – nip up rather overtightening, the leak test will check.

- e) Connect the hoses to the regulator (*if not already attached*). An in-line gas fuse safety device is recommended be installed between the regulator and cylinder connection.

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In-line Gas Safety Valve and Gauge

- f) Keep hoses slightly curved to prevent kinks and damage.

Hint

- New or openly stored gas fittings should have air blown through to remove dust, talc and foreign matter before connecting to the each other.
- Use the correct type of hose.
- Replace cracked or damaged gas regulators and hoses before use.

Warning

- g) Never undertake temporary connections, and condemn any hoses with patching tape.

2 TEST PROCEDURE

Soapy Water Leak Test - *as recommended by L P Gas Cylinder suppliers*

Have some soapy water in a spray bottle or dish ready, 50/50 parts.

Turn on the L P Gas Cylinder, but do not turn on the BBQ controls. This pressurises the entire gas supply system. Next, spray the entire valve, regulator and hose assembly with the soapy water see examples below.

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Main Connection



Gas hose and fittings



Bleed Screw



Appliance end gas fittings

Most likely areas of gas leakage, [Leak Test](#) have produced a demonstration video.

Alternatively, you can apply the soapy water with a paintbrush, basting brush or sponged on. Bubbles will form if there is a gas leak and you may additionally detect the rotten egg gas smell. Leak test the entire gas delivery assembly starting from the gas cylinder valve all the way through to where the gas hose attaches to the BBQ appliance.

When done, rinse with clean water to remove the soap solution. Remember it is important to test the gas delivery assembly, every time you re-connect a gas cylinder.

Important If you find a leak, turn off the gas cylinder immediately.

Do not turn back on or attempt to use the BBQ until the problem is rectified.

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Common Problem Areas

Gas Cylinder Leakage

- The main connection to the gas cylinder is the most frequent cause of gas leaks. In many cases, the regulator and hose thread are often not sufficiently tightened to the main connection of the cylinder.
- Dirt or damage to the thread and surface connectors are also common causes of leaks.
- Missing O-ring rubber seal

Main Connection

The standard BBQ regulator in Australia is a (*Prest-O-Lite*) POL low-pressure regulator.

The male connector of the regulator, which screws into the [POL gas valve](#) on your gas cylinder, commonly has a rubber O-ring or mushroom seal, or it may rely on a metal - metal contact seal.

You should always inspect the regulator for damage, paying special attention to the connector, which screws into the gas cylinder.

If it has a rubber O-ring, it also needs to be undamaged.



Main Connection
thread



Winged main connection



O ring

The main valve connectors and valve opening should both be clean and undamaged.

Pieces of dirt, nicks and scratches can prevent the two components from sealing, resulting in a leak.

Important

The gas leak test will confirm the adequacy of these connections.

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Gas Hose

The gas is hose attached to the regulator on one end and the BBQ on the other end.

It can become damaged or deteriorate with age.

Birds, possums and other animals can also cause damage by chewing on the dangling hose.

Visually inspect the hose for cracking, splitting or other damage.

You should replace the hose if it shows any signs of damage or degradation.

It is good practice to replace the entire regulator and hose assembly, if it is old enough for the hose to have deteriorated, as regulators also wear with age.

Valve Stem

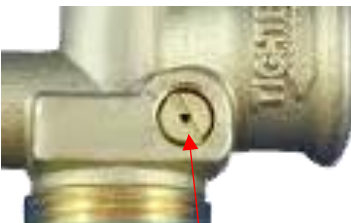


There have been instances of the valve stem failing prematurely and start leaking from around the valve stem. This is rare but it can happen.

Every ten years L P Gas cylinders in Australia are tested.

The gas valves designed to last the full ten years; where necessary on inspection they are changed.

Bleed Screw



The bleed screw is a small slotted screw on the side of the valve that lets gas vapour bleed off during the decanting refill process.

The refill technician opens it during the filling process and closes it, when done.

The screw can develop a slow leak if it becomes loose.

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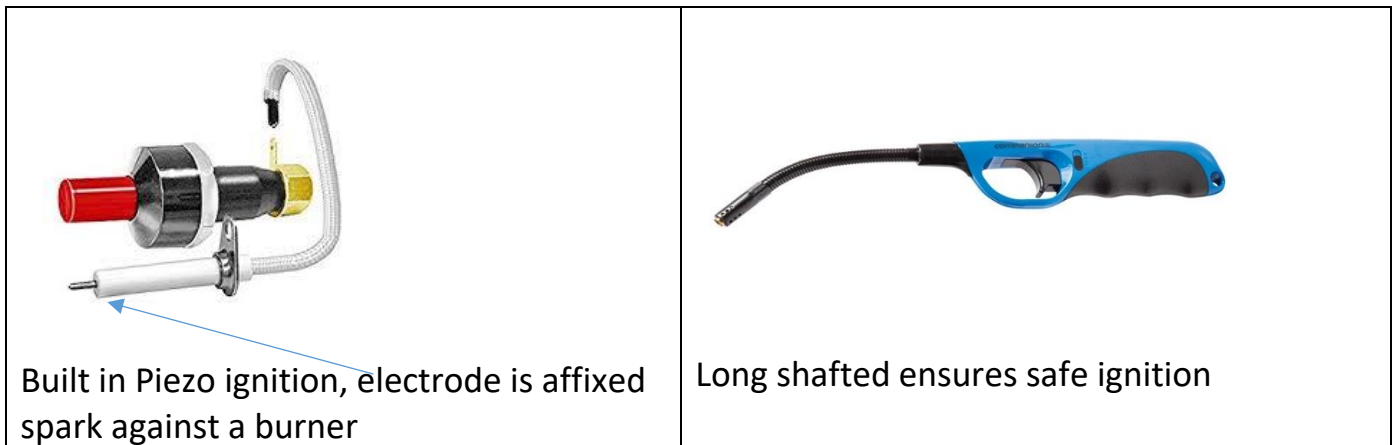
3 – LIGHTING THE BBQ

Ensure gas cylinder valve is open and delivery pressure is suitable.

Important -

- Always read the BBQ manufacturers operating instructions.

Opening the BBQ's main burner valve with the manual piezo ignition fitted, light the issuing gas with the piezo ignition. For BBQ's not fitted with a manual ignition the advice to operators is to use a long shafted lighter to light the burner rack.



- a) Open the BBQ valve further until the main burner is well alight; then proceed to open neighbouring additional burner valves as required they should auto ignite.

Hint –

- If the burner blows out soon after lighting, wind maybe a factor. Immediately turn off the valve to commence re-start, if this persists, consider repositioning or relocating the BBQ.

Important -

- Keep flame and dripping fat away from gas hoses and cylinder.
- Never introduce additional wind shielding/or guarding as this change would be considered a modification in the design of the BBQ appliance.

4 Emergency Plan

Gas cylinder leaking

If any leakage from the cylinder valve assembly is detected or suspected move the cylinder to a safe location at least 20 metres from any possible source of ignition. If the cylinder is venting uncontrollably

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- Keep flames and sparks away.
- Check main valve is CLOSED OFF. Hose with water.
- If it is not possible to stop the leak, keep the leak uppermost so that only gas and not liquid escapes.
- Keep hands and face clear of any escaping liquid.
- Initiate established emergency response plan as per section 11

5 Shutting down the BBQ

When finished cooking on the BBQ, turn OFF the gas at the cylinder first and then at the BBQ controls.

- Always turn off the gas cylinder main valve when it is not in use in the BBQ.
- Remember, adequate ventilation is essential.
- Ensure the gas cylinder main valve is CLOSED OFF prior to disconnecting the cylinder from the BBQ, even if you think the bottle is empty.

6 Housekeeping

The BBQ manufacturers operating instructions supplied with the barbecue may suggest the use of a drip tray (if fitted) to be filled with sand. It is preferred the tray be lined with aluminium foil or aluminium disposable tray liner. Sand accumulates excess fat from the cooking process. The excess fat can ignite quickly, causing a fire. Dispose of the aluminium foil or tray once the barbecue has cooled down. The BBQ requires cleaning after every use once the appliance has cooled and gas cylinder disconnected.

Important Establish an individual BBQ maintenance, cleaning and inspection plan.

7 Storage

The long-term storage of L P Gas cylinders should be outside, locked in a cage. Please note balconies are an indoor area.

- Gas cylinders should always be kept upright and in a well-ventilated area away from any flame, heat or other ignition source, L P gas is a heavier than air gas and will collect in low areas instead of dissipating.
- Gas cylinders should be kept in a location that does not hinder the escape of people and is well away from any combustible or waste materials.
- L P Gas cylinders kept at minimum 3 m from oxidizing gases.

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- Gas cylinders protected from any physical impact.
- Gas cylinders should always be stored with all their valves closed, when not in use.
- Gas cylinders and their fittings inspected for leaks prior to their storage or use.

It is recommended storage of the BBQ appliance be covered from the elements of weather and UV to protect and prolong the integrity of the appliance fittings. Ensuring the appliance is in fit for purpose condition, when used next.

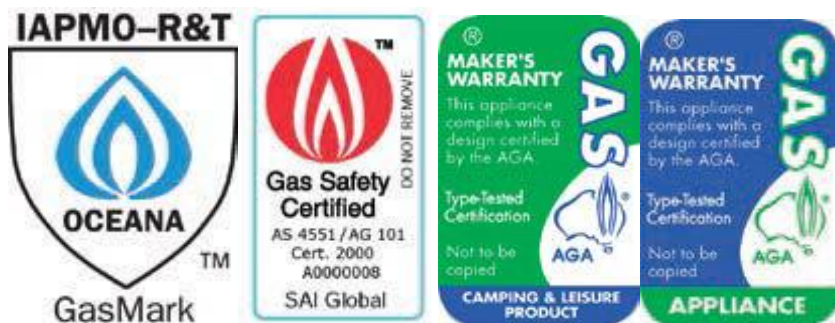
8 Transporting the LP Gas Cylinder

Transporting an L P Gas cylinder for refilling or exchange, avoid placing the cylinder in an enclosed space such as a car boot. If transporting in a vehicle, transport the cylinder in an upright position secured to prevent movement and other items hitting the cylinder, with window opened to maintain ventilation. Never leave a full gas cylinder un-attended inside a vehicle, especially on warmer days and always leave a window partially opened. In hot conditions, a gas cylinder can overheat causing cylinders to exceed the maximum service pressure resulting in the safety relief valve filling the car with gas vapour.

9 BBQ design certification markings

Important Ensure the BBQ's is an approved appliance, and displaying a certification plate.

Example of approved appliance certification plates



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10 BBQ requiring approval

Local Area management are responsible for providing approval for a BBQ outside of the functions on campus requirements details below.

Note: Any BBQ outside of the functions on campus requirements will require a copy of this Portable Gas Barbeque and L P Gas Cylinder SOP and Risk Assessment in place.

If the BBQ is an event as specified by Facilities and Services functions on campus requirements:

- Liquor will be available at the event
- The event impacts on pedestrian or vehicular movement; or
- If numbers attending exceed 50 participants

This will require an eform submission and approval to hold a function on campus. Requiring an additional Risk Assessment Management Plan developed specifically for the event. Please complete the application through the eforms Login or on the ANU Functions on Campus webpage, for enquiries call 612 54000 or e-mail functionsoncampus@anu.edu.au.

Note: a copy of the eform granted approval is required to be in place at the time of the event.

11 Emergency Response Plan

An individual emergency response plan, developed and in place and known to all BBQ User's.

In the event of an emergency. Ensure immediate safety of anyone at risk from a fire or uncontrolled gas leak - gas cylinder venting unburnt gas or gas cylinder venting burning gas:

Raise the alarm, utilising a building break glass alarm/ring ACT Fire and Rescue direct on **0-000**,

Providing: **Your name**
Building or location address,
Building name or number
Type and extent of fire and or gas leak,

Then contact ANU Security on **612 52249**

If safe to do so and if trained in the use of fire equipment – attempt to extinguish a BBQ fire, choosing the correct fire extinguisher or fire blanket for cooking oils and fats.

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	A Wood, Paper & Plastic 	B Flammable & Combustible Liquids 	C Flammable Gases 	E Energised Electrical Equipment 	F Cooking Oils and Fats 	NOTES: *Limited indicates that the extinguishant is not the agent of choice for the class of fire, but that it will have limited extinguishing capability. Class D fires (involving combustible metal(s)) use only special purpose extinguishers and seek expert advice. Comments (Refer Appendix A of AS 2444)
 Powder ABE						Special Powders are available specifically for various types of metal fires. Seek expert advice.
 Powder BE						Special Powders are available specifically for various types of metal fires. Seek expert advice.
 Fire Blanket						Use blanket to wrap around a human torch. Ensure you replace the blanket with a new one after use.

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8 Example BBQ operator check lists

BBQ User Check List

- BBQ user demonstrates knowledge following instruction on safe operation of the BBQ
- BBQ checked and inspected in accordance with BBQ Gas Safety checklist
- BBQ is setup in a well-ventilated open space outdoors only
- Check all burners are in the OFF position and positioned correctly
- Perform soapy water leak test as per Section 2
- Turn gas cylinder on (left half turn only)
- Light the BBQ with the piezo ignition knob, or long handled safety lighter by applying it to the furthest most burner from the bottle then turn the burner control ON
- Once alight check for an even blue flame
- Repeat igniting each other burner by turning on to auto ignite as per Section 3 a)
- Following the BBQ's successful shutdown turning OFF gas cylinder and correctly extinguish. Ensuring the cleaning of the BBQ, waste oil and fats removed.

The above checklist has been actioned by:

Name: _____ Date: _____

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BBQ Gas Safety Check List

This checklist should be in place at the time of operating the BBQ on University grounds

- BBQ and Gas cylinder are certified appliances
- Gas appliances have been confirmed good working order
- Controls working and clearly marked
- Appliance connection hoses and ancillary fittings satisfactory
- Location of BBQ use known to be well-ventilated
- Clearance of combustibile surfaces known to be 1500mm above and 500mm side
- Cylinder connections checked for leaks in accordance with leak testing
- Cylinder secure – suspended/affixed onto BBQ frame
- Cylinder located away from flammable materials
- Cylinder located away from ignition sources
- Cylinders not located in exit or pedestrian areas
- Cylinder quantity and size not exceeded (*2 X 8.5kg Maximum*)
- Single gas connection hose per appliance
- Regulator in good condition and where used and in-line safety valve
- Gas delivery hose in good condition
- Hoses protected from damage
- Hoses not a tripping hazard
- Hoses not more than 3 metres in length

Functions and Events

If the BBQ is an organised event, Facilities and Services –Functions on Campus are required to review and approve the event. Please complete the application at [eforms Login](#) in addressing the details of the event. A copy of the eform granted approval is required to be in place at the time of the event.

Name _____ Date _____