



QUARTERMASTER

Lesson Five: Fuel

In order to be able to make use of the cooking equipment, they require fuel to run them. As quartermaster, it is your job to make sure that they have the right cooking fuel – and enough!

Types of Fuel

In the majority of cases, you would deal with one of four types of fuel:

- Propane – this is stored in a red container. The liquid gas starts to vapourise at lower temperatures, and so is better on colder days
- Butane – this is stored in a large blue container. This works better on warmer days than propane.
- Methylated Spirits / Paraffin – This is either a clear or purple coloured liquid and can be stored in a metal container – or a plastic one.
- Petrol

It is unlikely that you (as Quartermaster) would have to deal with the fifth type of cooking fuel – wood – but of course, you may have to look after the charcoal for the BBQ!

Cookers

As well as knowing what types of fuel there are, it is also worth knowing what cookers are used. At camp, we are most likely to use the larger cooking ranges, making use of the Propane and Butane cylinders.

For hiking though, you may use a cooker that makes use of the other types of fuel.

Petrol cookers

Petrol cookers are fairly robust cookers. The unit must be “primed” – that is pumped up, and once running is very efficient. What makes this cooker quite useful is that in most cases filling it can be straightforward – especially if there is a car nearby for emergencies! However, these are not cheap to purchase and do require cleaning to make sure that the jets and nozzles are clear of any flakes etc.



Trangia Cookers

There are two types of trangia cooker available. These can run on gas cylinders, or the more compact version makes use of a pot of paraffin. These cooker units are very good for hiking as they come with the cooker unit and a cooking pot to work with



Camping Gaz

This is a fairly common cooking unit. Small gas cylinders are plugged onto the cooker; the cylinders are quite easily available – but the cookers are not the best in terms of heat output (the gas is a butane mix). The cylinders are either pierced (and so remain connected to the cooker until they run out) or are screwed in (and so can be dismantled)

1. Bleu et 270M stove.
2. Camping 206 stove.



Above: two types of camping Gaz cooker; a single use camping gaz cylinder and a reusable cylinder

Fuel Storage

At camp, care should be taken in regard to the storage of gas cylinders. They should not be put onto unstable surfaces – and they should **NEVER** be kept near naked flames or campfires.

When not in use, cylinders should be stored in proper locked protective cages.

Fuel Warnings and Care

Tubing

To connect the cooker to the gas, you will probably make use of a specialist rubber tube. Before you let anyone make use of the cooker, you should always check the tubing, making sure that the rubber hasn't cracked or deteriorated (the tubing quite often has a date on it to allow for maintenance) and that the clips holding the tube to the cooker or connector are also firm.

Ventilation

If you are changing a camping gas cylinder, you should always do this in a well-ventilated area. Because the gas is combustible working in such an area will allow the gas to escape safely.

You should never change a cylinder near any naked flames.

REMEMBER: It takes less than 2 minutes to completely burn down a tent (any size)

Seals and screwfittings

When using gas cookers, you should always make sure that the connections are properly sealed. For the larger red propane cylinders, this means tightening the screw onto the cylinder (there should be a spanner available to ensure tightness); for the blue butane cylinders this a clip system.

Because the gas is highly pressurised (which is what makes it liquid) the connectors need to be tight so that they won't suddenly come off, releasing a lot of gas into the atmosphere.

Disposal

How do you know if a cylinder is empty? You shake it. If there is any gas in there it will slosh around, if its empty there will be no sound (be carefull when picking up the larger cylinders... even empty they are still heavy)

For the larger cylinders, you can find places to exchange an empty cylinder for a new one (some petrol stations will do this).

For Smaller cylinders of course, you need to dispose of them carefully in the bin. **DO NOT DISPOSE OF THEM IN THE FIRE, DO NOT BASH THEM WITH MALLETS TO MAKE THEM SMALLER**

IMPORTANT NOTE (2008):

The Scout Association do not recommend the continued use of the pierced style of gas canister. There have been a large number of recorded incidents involving the use – and misuse – of such devices. Wherever possible, alternative options should be used. However if this is not possible, the Association recommends that use of such equipment should be closely supervised and, above all, **cartridge changes and assembly should only be undertaken by adults, in the open and away from sources of ignition.**

Exercise

As we have now covered 5 lessons, you should be able to answer these simple questions to test your knowledge! There may be one or two questions that have more than one correct answer!

1. A Braided rope is:
 - a. One that has three or more ropes twisted round themselves
 - b. Has an inner and an outer core
 - c. Comes from Jamaica
 - d. Is just a solid piece of plastic

2. An Eye Splice:
 - a. Is just really painful
 - b. Is just a simple way of stopping the end of the rope from unfraying
 - c. Can be used to make a permanent loop at the end of a rope
 - d. Can be used to make a temporary loop at the end of a rope

3. West Country whipping is:
 - a. A fairly easy way to stop the end of the rope from coming undone
 - b. Can be used on laid rope only
 - c. Makes the end of the rope quite flexible
 - d. Can be used on braided rope only

4. To coil a rope:
 - a. Wrap it round your hand a few times
 - b. Just fold it in half
 - c. Wrap it round your arm
 - d. Loop it over your hand, allowing the rope to naturally coil

5. To hank a rope:
 - a. Just throw it in the rope box
 - b. Fold it in half a few times then tie a thumb knot in the middle
 - c. Coil the rope a few times then wrap the rope round the middle a few times
 - d. Give it to a smaller scout to do.

6. How Many food groups are there?
 - a. 3
 - b. 4
 - c. 5
 - d. is chocolate a food group?

7. Are Potatoes in the Vegetable, Starch, Meat or Fat food group?
 - a. Vegetable food group
 - b. Starch food group
 - c. Meat food group
 - d. Fat food group

8. To keep milk cool you could:
 - a. Just leave it in the sun
 - b. Put it in a bucket of water
 - c. Put it in a ditch
 - d. Keep it in the patrol box

9. If possible, you should store dry goods:
 - a. In the Patrol box
 - b. On a table under the dining shelter (in open view)
 - c. Out of site on a table
 - d. Just in the store tent

10. Axe Heads should be covered when not in use:
 - a. True
 - b. False

11. The hole at the top of the axe is called:
 - a. The top of the axe
 - b. The eye
 - c. The Foot
 - d. The Nail

12. In the names for the parts of the axe, there is:

a. Head	YES	NO
b. Big Toe	YES	NO
c. Shoulder	YES	NO
d. Wedge	YES	NO

13. Saws should be carried:
 - a. Blade downwards
 - b. Blade forwards
 - c. Blade backwards

14. Saw blades should be left uncovered so that they can be easily brought into use
 - a. True
 - b. False

15. Legal Pocket Knife blades should be less than 8cm
 - a. True
 - b. False

16. The Violent Crime Reduction Act (2006), banned the sale of knives to:
 - a. Under 18 year olds
 - b. Under 16 year olds
 - c. Under 21 Year olds

17. Any Record keeping system should be:
 - a. Easy to use
 - b. Simple to operate
 - c. Not complicated to maintain

18. Propane gas is stored in what coloured cylinders:
 - a. Red
 - b. Blue
 - c. Green
 - d. Black

19. Single use gas cylinders are so called because:
 - a. They can only be used to cook one meal
 - b. They have no mechanism to reseal once opened
 - c. Once you have started to use it, you have to use all the gas up

20. As Quartermaster, you are responsible for how all the equipment is used
 - a. True
 - b. False

So, how do you think you did?

Answers

1. B – it has an inner and outer core. Laid rope is made up by twisting ropes round themselves
2. C – it is quite a time consuming process, but makes a very useful, permanent loop
3. A – it's just a series of overhand knots and can be done on any type of rope
4. D – but you may want to twist the rope to make sure each coil lies flat to its neighbour.
5. B OR C – it depends on how much rope you have to hank up
6. C – Vegetable, Starch, Milk & Dairy, Meat and Alternative, Fat (and chocolate is part of the Fat group!)
7. B – Starch, along with pasta
8. B OR C – BUT B is probably simpler; you need to make sure that for C the ditch is covered and damp.
9. C – but A is okay if the patrol box is shut.
10. A – true, it protects the end of the axe which should be kept sharp to be of most use.
11. B – the eye
12. a) Yes b) No c) Yes d) yes
13. A – but the blade should be covered so that they don't damage clothing
14. B – false
15. A – it should be less than 7.62cm (3 inches)
16. A
17. All of them!
18. Red cylinders
19. B
20. False – you can't be responsible for how the equipment is being used as such – but you can make sure that those borrowing the equipment know how to use it. You are responsible for making sure that any equipment is fit for use.