

# Safety

## What you will learn

When you have finished this section, you should know about:

- General Safety when working on engines
- Fuel Safety.

## Things you need before you start

### Materials

None

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### Tools

None

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# General safety

It is easy to forget that small engines can be dangerous when you are running them or working on them!

Here are some reminders:

## Engines are hot

Keep away from the hot exhaust pipe, mufflers and ports.

Don't cover a hot engine with anything that could catch fire – like rags or plastic sheeting.

Hot exhaust can set fire to dry grass and scrub.

## Electric shock

The electricity in the spark system of an engine might not be enough to kill you if you get a shock – but it can make you jump! As you pull away, you could touch hot or moving parts. Keep your hands away from the spark plugs and wires while the engine is running.

## Noise

Loud noise is tiring – and can make you permanently deaf. Keep sound levels as low as possible. Use ear muffs if you have them.

Never operate the engine without a muffler or with a faulty exhaust.

## Moving parts

Always mind those moving parts.

They are the parts that the engine drives – but they are the most dangerous parts. Look out for propellers, blades, chains and the like.

Also be careful of drive belts (V-belts) and pulleys that can quickly grab your clothing or hair.

Don't operate machines without their guards or covers in place!

If you are working on an engine and turning it over – make sure that it can't start – remove the HT lead(s) and check the kill switch is to 'OFF'. Never take chances.

## **Fumes**

NEVER run a petrol engine indoors.

Engine exhausts produce carbon monoxide gas – this is invisible and does not smell – but it can kill people in closed places.

## **Outboard motors**

NEVER try to start an Outboard engine with Gear Selector in FORWARD Position.

The uncontrolled power from the engine can swing the engine around to the 'lock' and will capsize a small canoe or dinghy. If that happens, you can be badly injured by the propeller. The engine will also be badly damaged by taking in water.

# Fuel safety

Here are some basic safety precautions when you are around petrol.

- Petrol/gasoline is extremely explosive – so don't smoke around petrol! Don't make sparks with any equipment.
- Don't breath-in petrol fumes – they can damage your lungs.
- Don't syphon fuel from a tank by sucking on a pipe.
- Avoid getting petrol on your hands and skin. It will dry-out the skin and can cause rashes and other skin problems.
- Stop the engine before refilling the fuel tank. Rinse off any spills with water or wait till they evaporate before starting the engine.
- Never work on a petrol engine indoors unless it has been totally drained of petrol and given time for the residue to evaporate.
- Avoid using petrol for cleaning engines or parts. Use kerosene or diesel instead. It is much safer.



## Storing fuel

- Store petrol in an approved petrol can or tank. These should be red in colour.
- NEVER store petrol in glass or plastic bottles.
- NEVER store petrol indoors or anywhere that vapour can build up or near an open flame.