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**GENERAL CERTIFICATE IN ORNAMENTAL
HORTICULTURE LEVEL 1**

Workbook :

Mow Lawns in Landscaped Areas

Mow Lawns in Landscaped Areas Workbook

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Workbook :

Mow Lawns in Landscaped Areas

A c k n o w l e d g e m e n t s

Developed by

Lifestyle College

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Study Session Overview

Purpose

The purpose of this study session is to equip you with the skills and knowledge necessary to mow lawn areas safely to the standards laid down for the various sectors of the industry.

This study session forms part of the General Certificate in Horticulture, NQF level 1 and is aligned with the Unit Standard: Mow Lawns in Landscaped Areas, which carries 3 credits.

Who is it for?

This study session and unit standard form the knowledge base for people working with lawn mowers within the ornamental horticulture or landscaping industry and gives the learner the skills and knowledge necessary to:

- Identify the different types of mowers and their method of operation.
- Conduct the necessary preparations for mowing.
- Apply the correct operating techniques and procedures for mowing.
- Demonstrate an understanding of the importance of mower maintenance and storage.

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What's in it for you?

The skills acquired in this study session will equip you with the skills and knowledge needed to be able to mow lawn areas safely to the standards laid down for the various sectors of the industry. These skills and knowledge form the basis of your horticultural studies and help you to:

- Explain the operating principles of rotary mowers.
- Explain the operating principles of reel mowers.
- Demonstrate the adjustment of the height of cut for rotary and reel mowers.
- Explain the difference in the fuel requirements of 2-stroke and 4-stroke petrol mowers.
- Demonstrate the correct method of filling a mower's fuel tank.
- Demonstrate the correct selection and use of PPE.
- Demonstrate and describe the mower safety and mechanical checks.
- Demonstrate the inspection and clearing of the area to be mown.
- Demonstrate the preparation and setting of the mower.
- Demonstrate the correct start up and operation of a petrol mower's engine.
- Demonstrate the correct start up and operation of an electrical mower.
- Demonstrate the correct method and techniques of mowing a lawn.
- Describe the types of cut and their quality and finish.
- Describe the comprehensive maintenance checks that should be carried out on a mower.
- Demonstrate the procedures to follow in the cleaning and storage of a mower after use.

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What about assessment?

If you can mow a section of lawn using:

- A petrol lawn mower
- An electrical lawn mower

Correctly clean and store the mowers after use and correctly answer the knowledge questionnaire.

You will receive credits for a competent rating on your assessments.

These credits contribute 1 unit standard and 3 credits towards the General Certificate in Ornamental Horticulture Learnership at NQF Level 1.

The laid down policies and procedures with regard to assessment, moderation, RPL and appeals govern this assessment.

You will be rated "Competent" or "Not Yet Competent" against the assessment criteria.

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Unit Standard

| | |
|--|--|
| Title | Mow lawns in landscaped areas |
| Number | 119697 |
| Level | 1 |
| Credits | 3 |
| Field | Agriculture and Nature Conservation |
| Sub field | Horticulture |
| Issue date | 2006-02-09 |
| Learning assumed to be in place | Demonstrate knowledge of communication and Numeracy at Abet level 3. Health and safety practices. |

| Specific Outcomes | Assessment Criteria |
|---|---|
| 1. Identify the different types of mowers and their method of operation. | <ul style="list-style-type: none">▪ Explain the operating principles of rotary mowers.▪ Explain the operating principles of reel mowers.▪ Demonstrate the adjustment of the height of cut for rotary and reel mowers.▪ Explain the difference in the fuel requirements of 2-stroke and 4-stroke petrol mowers.▪ Demonstrate the correct method of filling a mower's fuel tank |
| 2. Conduct the necessary preparation for mowing. | <ul style="list-style-type: none">▪ Demonstrate the correct selection and use of PPE.▪ Demonstrate and describe the mower safety and mechanical checks.▪ Demonstrate the inspection and clearing of the area to be mown |

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| Specific Outcomes | Assessment Criteria |
|--|---|
| 3. Apply the correct operating techniques and procedures for mowing. | <ul style="list-style-type: none">▪ Demonstrate the preparation and setting of the mower.▪ Demonstrate the correct start up and operation of a petrol mower's engine.▪ Demonstrate the correct start up and operation of an electrical mower.▪ Demonstrate the correct method and techniques of mowing a lawn.▪ Describe the types of cut and their quality and finish. |
| 4. Demonstrate an understanding of the importance of mower maintenance and correct storage. | <ul style="list-style-type: none">▪ Describe the comprehensive maintenance checks that should be carried out on a mower.▪ Demonstrate the procedures to follow in the cleaning and storage of a mower after use. |

Embedded Knowledge

Embedded knowledge is reflected within the assessment criteria of each specific outcome and must be assessed in its own right, through oral and written evidence. Observation cannot be the only assessment.

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Critical Cross Field Outcomes

- Identify and solve problems in which responses display that responsible decisions using critical and creative thinking have been made – specific outcome 2, 3 and 4.
- Work effectively with others as a member of a team, group, organisation or community. Specific outcome embedded in the learning for this level of learner.
- Organise and manage oneself and one's activities responsibly and effectively. Specific outcome 2, 3 and 4.
- Collect, analyse, organise and critically evaluate information. Specific outcome 2, 3 and 4.
- Communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation. Specific outcome embedded in the learning for this level of learner.
- Use science and technology effectively and critically, showing responsibility toward the environment and health of others. Specific outcome 1, 2, 3 and 4.
- Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.

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**Unit Standard Accreditation and Moderation
Options**

1. Internal moderation.
2. External moderation.
3. Moderation of assessment will be overseen by the relevant ETQA, according to the moderation guidelines in the relevant qualification the agreed ETQA procedures.
4. Internal assessment.
5. External assessment with the relevant registered/accredited industry body/ETQA.
6. An Assessor accredited by the relevant ETQA, will assess the Learner's competency.
7. Formative and summative assessment of qualifying Learners against this unit standard should be in alignment with the requirements of the NSB.
8. Practical assessment activities will be used that are appropriate to the contents in which the qualifying Learners are working.
9. Assessment will include self and peer assessment, practical and oral assessment, observations, questions and answers, etc.
10. Direct observation is required in simulated or actual work conditions.
11. Reporting skills are demonstrated by effective communication, using verbal and/or writing skills.
12. Assessment is to be structured to include formative and summative component, as well as the submission of a Portfolio of Evidence.
13. The assessment should ensure that all the specific outcomes, critical cross field outcomes and embedded knowledge are assessed.
14. Specific outcomes must be assessed in their own right, through oral and practical evidence and cannot be assessed by observation only.

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Essential embedded knowledge must be assessed in their own right, through oral and practical evidence and cannot be assessed by observation only.

15. Special outcomes and essential embedded knowledge must be assessed in relation to each other.

16. If qualifying Learners are able to explain the essential embedded knowledge, but are unable to perform the specific outcomes, then they should not be assessed as competent.

17. If qualifying Learners are able to perform specific outcomes, but are unable to explain the essential embedded knowledge, they should not be assessed as competent.

18. Evidence of the specified critical cross-field outcomes should be found, both in performance and in essential embedded knowledge.

19. Assessment activities must be fair, so that all Learners have equal opportunities. Activities must be free of gender, ethnic or other bias.

20. This unit standard can be assessed together with any other relevant registered unit standard.

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Who does what?

You are expected to actively take part in the lessons by:

- Asking questions.
- Planning and preparing for your training and assessment.
- Completing the assessment tasks that you are given.
- Telling your trainer when you need help or don't understand.

Your learning will be supported in the following ways:

- Your trainer will provide you with all the necessary training material.
- Your trainer will manage the learning process during the training.
- The assessor will plan and prepare you for assessment, assess your competence and provide feedback to you and arrange any follow up assessments that may be necessary.

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Introduction

The mowing of lawn is not only about the cutting of the lawns or only about the operation of the lawnmower. It is in fact both- the correct and neat cut of the lawn will be your main job. The correct and safe operation of the lawnmower will allow you to be able to get the best looking cut lawn.

If your lawnmower is not in a good condition your grass will not look as good. Also if you do not know how to adjust the cutting height of your mower your lawn will either still be too long or it will have white or brown patches in it from being cut too short.

SAFETY!!!!

Another important aspect of lawn mower operation is the safety of yourself and those around you, such as members of the public or fellow workers.

Lawnmowers can **seriously hurt of even kill a person**. They can also cause a lot of damage to property.

Let's start by having a look at the different kinds of mowers and how they work.

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Lesson 1 : Types of Lawn Mowers

Specific outcomes of this lesson :

Identify the different types of mowers and their method of operation.

Apply the correct operating techniques and procedures for mowing.

After you have worked through Lesson 1, you should be able to:

- Explain the operating principles of rotary mowers.
- Explain the operating principles of reel mowers.
- Demonstrate the adjustment of the height of cut for rotary and reel mowers.
- Explain the difference in the fuel requirements of 2-stroke and 4-stroke petrol mowers.
- Demonstrate the correct method of filling a mower's fuel tank.
- Describe the types of cut and their quality and finish.

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Introduction

Lawn mowers can be categorized into 3 basic groups:

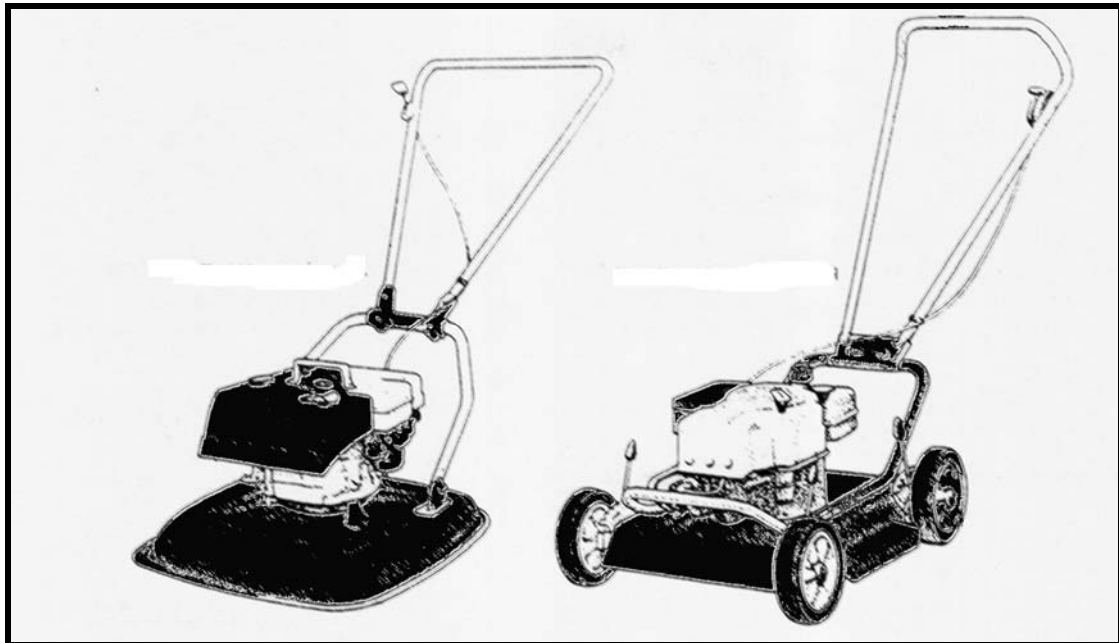
| Cylinder or reel mowers | Rotary Mowers | Brush cutters or edge trimmers |
|---|---|--|
| <ul style="list-style-type: none">▪ The cutting blade is a cylindrical reel that cuts against a bottom blade, like a pair of scissor.▪ Can be petrol driven or electric.▪ Some are self propelled by means of a clutch.▪ Gives the best quality of cut lawn.▪ Used on sports fields such as bowling greens and soccer pitches.▪ These machines are more expensive.▪ Cylinder mowers usually have a roller in the back and front which helps to level the grass. | <ul style="list-style-type: none">▪ The cutting blade is a singular blade connected directly to the engine by the crank shaft that cuts by “slashing” the grass at high speed.▪ Can be petrol driven or electric.▪ They are usually not self propelled except in very big machines used on golf courses and parks▪ Rotary mowers don’t level the grass during cutting. | <ul style="list-style-type: none">▪ The cutting blade can either be a circular blade or nylon line attached at the end of a long shaft.▪ These machines are usually hand held and strapped over your shoulder.▪ Can be petrol driven or electric.▪ These are used for trimming grass edges or rough grass that doesn’t have to be neat. |

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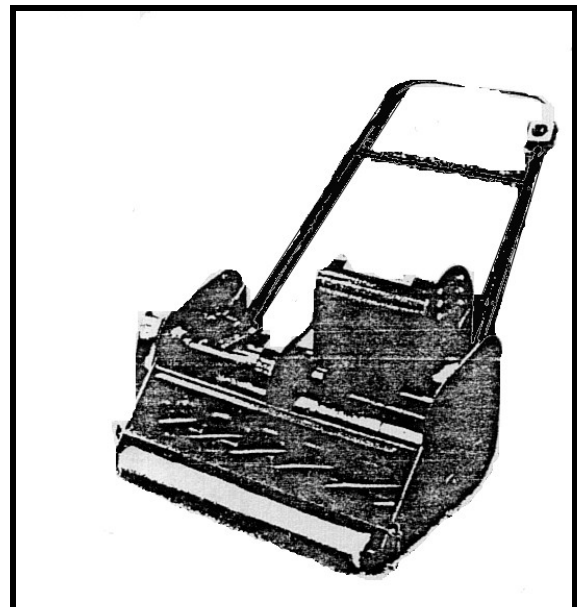
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EXAMPLE OF ROTARY MOWERS



EXAMPLE OF A CYLINDER MOWER



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Your Turn...

ACTIVITY 1

How would you go about explaining to a child:

- **How rotary mowers operate:**

- **How reel or cylinder mowers operate.**

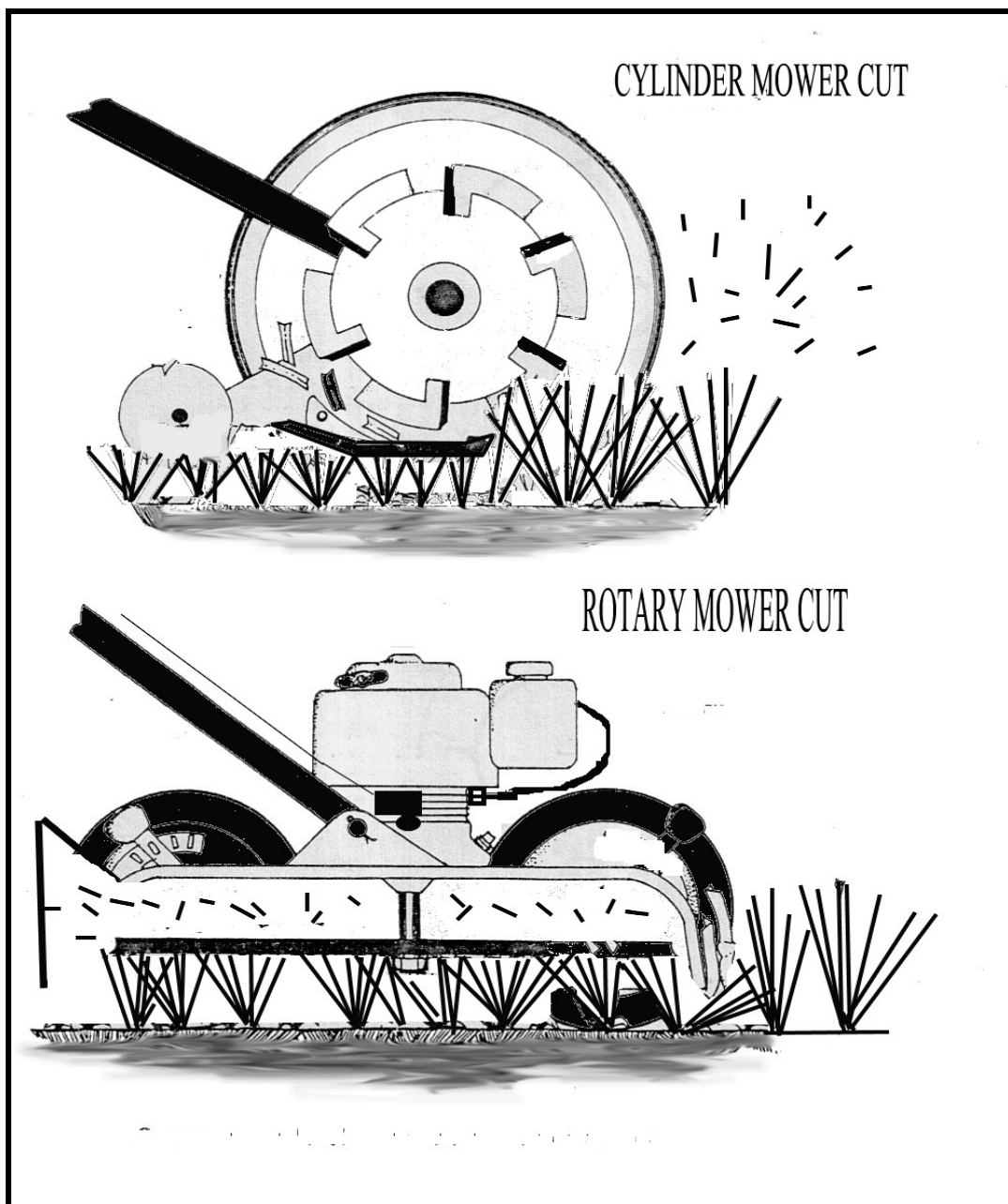
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Lawn Mower Cuts

Let's take a look at the difference in the way a cylinder and rotary mower cut the lawn.



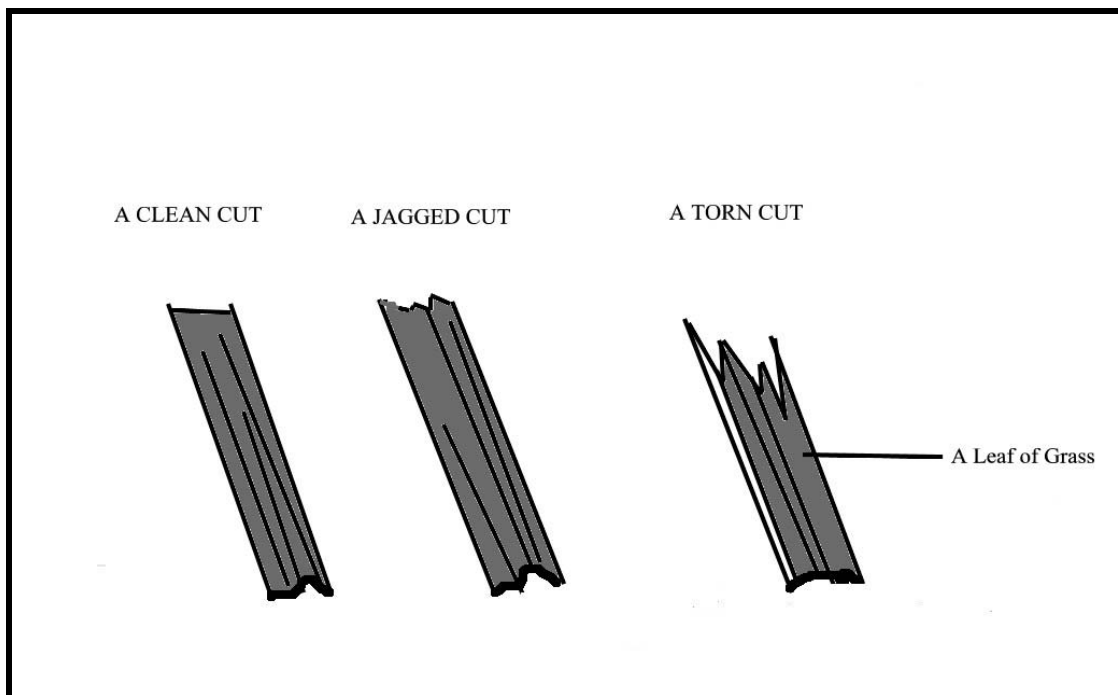
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One of the best ways to check whether your lawn mower's blades are sharp or have been adjusted is to look at the actual leaves of the grass and see what the cut edge looks like.

- **A clean cut** looks like the grass has been cut with a very sharp knife or scissors.
- **A jagged cut** has a slightly rough edge. This is a normal cut for rotary mowers but if your cylinder mower cuts like this it means that the blades are blunt or not adjusted correctly.
- **A torn cut** has a shredded look as if been slashed by a panga. This means that your blades are blunt or not adjusted correctly and need to be set or replaced.



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Your Turn...

ACTIVITY 2

Describe the types of cut and their quality and finish.

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Adjusting the cutting height of lawn mowers

Let's take a look at how to adjust the cutting height of the different types of lawn mowers.

CYLINDER MOWERS:

Cylinder mowers have two height adjustments-

1. The height of the bottom blade can be set by turning the two bolts on either side of the cylinder, using a correct size spanner. These bolts are usually vertically positioned and have strong springs keeping them in place. The setting of the bottom blade is done by lifting or lowering the rollers. This will actually set the cutting height of the mower and therefore the cut grass length. The best length for cut grass is between 10-25 mm. If the cylinder does not make enough contact with the bottom blade the grass will tear or just bend and not cut leaving the grass looking untidy.
2. The second adjustment does not control the height as much as it controls the cutting ability. Two additional bolts on the sides of the cylinder can be turned to set the space between the cylinder and the bottom blade (the scissor action). It is very important that the cylinder can still turn with your hand since if it is too tight it will wear the motor and the blades out quickly.

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ROTARY MOWERS:

Most rotary mowers have only a single adjustment for the height but some Honda mowers have 4. They all work on the same principle.

A lever attached to the chassis can move the mower up or down. The lever has notches into which it fits to make sure that it does not slip down while mowing. The 4 lever models work in the same way except that there is one lever per wheel. When adjusting these types make sure that all 4 wheels are set to the same height.

The single lever models will have the notches numbered for your convenience. The correct setting will depend on make and model of the mower. Remember that the best length of lawn is about 25 mm.

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Your Turn...

ACTIVITY 3

Using the two mowers supplied, demonstrate how you would set the cutting heights of for a:

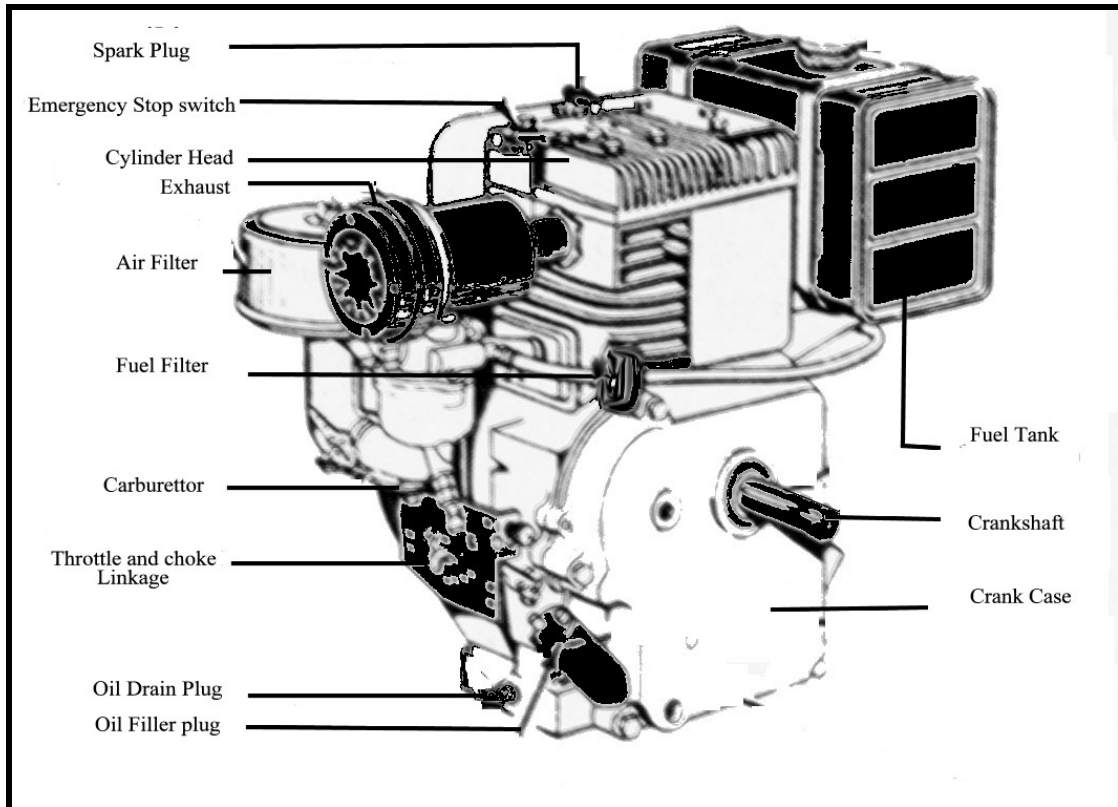
- **Rotary mower**
- **Reel or cylinder mower**

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The parts of a petrol driven mower engine.



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Different mower engines need different kinds of petrol.

There are two kinds of petrol engines on mowers-

1. 2 stroke
2. 4 stroke

Generally, all two stroke engine need 2 stroke oil to be mixed with the petrol because they do not have an oil sump to keep the engine lubricated. This is especially true for brush cutters or edge trimmers and it allows them to be used at any angle.

4 stroke engines all have oil sumps which lubricate the engine and therefore do not require any additional oil mixed into the petrol.

How much oil should be mixed with the petrol on 2-stroke engines?

Most 2 stroke engines will need a mix of about 25-50l petrol with 1l of oil. This means that on a 2l tank you must mix between 80ml and 160ml of oil. If you are not sure always read the manufacturers book or the label on the fuel tank.

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How do I refuel a lawn mower?

CAUTION! THLOKOMELA! PASSOP!

- Most lawn mowers will use unleaded fuel, so you always need to check with your supervisor what fuel you need to put into the lawn mower you are using.
- Never smoke while you are refueling a mower or near a mower being refueled because petrol burns easily and there is a danger of you starting a fire.
- Always turn the lawn mower off before you refuel because any fuel that is spilled onto the hot exhaust can catch fire easily.
- Always take the mower off the lawn onto a paved, gravel or concrete area before refueling because if you spill petrol onto the grass, it will kill the grass.
-