

# Integrated assignments

## Introduction

There are two integrated assignments supporting these materials.

1 Risk assessment

2 Planting plan

These provide learners with an opportunity to extend and apply the skills they have developed within their vocational course and through the use of these materials. They are structured in a similar style to Key Skills assignments, but the content reflects learning from particular modules.

## Introducing the assignments

Teachers should go through the assignments with learners to check that they understand the tasks and have strategies for tackling each one. Learners can be asked to produce an action plan or checklist, to ensure that they are clear about the demands of each task within the assignment. Learners should be made aware of the signposting to the relevant modules within the Embedded Learning materials if they need to look back and check some skills.

## Assessing learners

Learners are expected to complete tasks independently with the minimum of teacher input. The marking scheme identifies the units and elements of the National Occupational Standards, Key Skills and the Adult Core Curricula for Literacy and Numeracy.

Learners' performance can be assessed on all three aspects of the task or one specific area. Coverage of the National Occupational Standards includes some performance criteria and/or underpinning knowledge from the NVQ. Additional questioning or observation of tasks may provide sufficient evidence for learner portfolios.

# Integrated assignment 1

## Risk assessment

Health and safety is very important in the workplace. Your employer is responsible for providing a safe working environment. You are also responsible for your *own* health and safety and the health and safety of *others*. This includes your workmates, site visitors and members of the public.

In this assignment you can show your knowledge of health and safety issues within your own work area. You will need to complete Parts A–D.

- A** Complete a risk assessment for a job at work.
- B** Research two hazards and safe methods of work.
- C** Describe an accident using an accident report form.
- D** Draw a flow chart to show the procedure for dealing with accidents.

### PART A

- 1 Think about a job or task that you may be asked to do at work. Write a brief description.
- 2 Use the risk assessment table on the next page to list any risks or hazards related to this task. These may be risks that apply to your work role in general or risks that are related just to this task.

Think about:

- the people involved
  - the materials or equipment being used
  - the work area.
- 3 Complete the risk assessment table on the next page to show what action you think should be taken to ensure safe working, and identify who is responsible for this action.

If you have any problems with this task you can look at the embedded paper-based materials Module 1: The work environment.

Task description:		
Hazard or risk	Methods or actions to ensure safe working	Person responsible

## PART B

Find out as much as you can about two of the hazards you have identified and the methods you can use to protect people.

Make sure you have included the following:

- what the hazard is
- how it affects people in your workplace
- methods you can take to avoid accidents
- actions to take if an accident happens.

Present your findings using graphics.

### Sources of information and evidence you can use

- Workplace policies and procedures
- Method statements
- Any leaflets or booklets – LANTRA and Health and Safety Executive (HSE)
- the Internet, e.g. [www.hse.org.uk](http://www.hse.org.uk)
- Photographs with explanations
- Drawings or plans of the work area
- Examples of safety signs and symbols that relate to this work area
- A colleague or supervisor

Photocopy and highlight anything that relates to the hazards you have identified.

If you have any problems with this task you can look at the embedded paper-based materials Module 1: The work environment.

### Note

You may want to add some more information to the risk assessment table in Part A after you have completed your research.

**PART C**

Think again about the safe working methods for this job. What might happen if these are not used? Discuss this with your teacher or with a partner.

Think about a possible accident that may occur. Use this information to complete an accident report form (download a form from the RIDDOR website).

*Before you start to complete the accident report form, you may find it useful to make notes using the headings from the form.*

**PART D**

Draw a flow chart to show the procedures that should be followed in the event of an accident in your workplace.

Make sure you show who is responsible for carrying out these procedures.

Explain how this works to a colleague or your teacher.

If you have any problems with either of these tasks you can look at the embedded paper-based materials Module 1: The work environment.

**Mapping information**

Adult Core Curriculum	Key Skills	National Occupational Standards
Rt/E2.4 Rt/L1.3, Rt/L1.4, Rt/L1.5 Rt/L2.5 Wt/L1.1, Wt/L1.2 Wt/L2.2, Wt/L2.3, Wt/L2.4 Slc/L1.2, SLd/L1.1 HD/E3.4	C1.2, C1.3 C2.2, C2.3	CU2 Monitor and maintain Health and Safety  Provides evidence of knowledge and understanding in elements CU2.1 and CU2.2. Also covers some performance criteria.

<b>Horticulture Integrated assignment 1: Risk assessment</b> This assignment relates to Unit CU2 of the National Occupational Standards and practises the skills developed in Module 1: The work environment in the Embedded Learning materials.							
Part A: Complete a risk assessment for a job at work.							
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved	Achieved with support
CU2.1:1	<ul style="list-style-type: none"> <li>Identify health and safety risks in own work setting in relation to:               <ul style="list-style-type: none"> <li>people</li> <li>equipment and materials</li> <li>the work area.</li> </ul> </li> <li>Give health and safety information in a manner likely to be understood.</li> </ul>			Wt/L1.2  HD1/E3.4	<ul style="list-style-type: none"> <li>Judge how much to write and the level of detail to include.</li> <li>Organise and represent information in different ways so that it makes sense to others.</li> </ul>		
And shown knowledge and understanding of the following: CU2.1 a, b, c; CU2.2 a, b, c							
Part B: Research two hazards and safe methods of work.							
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved	Achieved with support
CU2.1.3	<ul style="list-style-type: none"> <li>Seek guidance on measures to control unfamiliar risks arising from non-routine work situations.</li> </ul>			Rt/L2.2	<ul style="list-style-type: none"> <li>Read and understand a range of information from different sources.</li> </ul>		
CU2.1.4	<ul style="list-style-type: none"> <li>Give health and safety information in a manner likely to be understood.</li> </ul>			Slc/L1.2	<ul style="list-style-type: none"> <li>Make requests and ask questions to obtain information in familiar and unfamiliar contexts.</li> </ul>		
CU2.2.6				Wt/L2.4	<ul style="list-style-type: none"> <li>Use format and structure to organise writing for different purposes.</li> </ul>		
				Wt/L2.6	<ul style="list-style-type: none"> <li>Use different styles of writing for different purposes.</li> </ul>		
And shown knowledge and understanding of the following: CU2.1 a, d, e; CU2.2 b, c, d							

Part C: Describe an accident using an accident report form.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
CU2.1.1	<ul style="list-style-type: none"> <li>Identify health and safety risks in relation to the workplace.</li> <li>Give information to others in a manner likely to be understood.</li> <li>Keep any necessary records.</li> <li>Report incidents without delay and fill out records accurately, legibly and completely.</li> </ul>	Achieved	Achieved with support	Wt/L2.2	<ul style="list-style-type: none"> <li>Judge how much to write and the level of detail to include.</li> <li>Present information and ideas in a logical sequence.</li> <li>Use format and structure to organise writing for different purposes.</li> <li>Follow and contribute to discussions on a range of straightforward topics.</li> </ul>	Achieved with support
CU2.1.4						
CU2.2.6				Wt/L2.3		
CU2.1.10				Wt/L2.4		
CU2.2.10				SLd/L1.1		
And shown knowledge and understanding of the following: CU2.1 a, b, e, I and CU2.2 i						
Part D: Draw a flow chart to show the procedures for dealing with accidents.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
CU2.2.9	<ul style="list-style-type: none"> <li>Take appropriate action where incidents affect the health and safety of others.</li> <li>Give information to others in a manner likely to be understood.</li> </ul>	Achieved	Achieved with support	Wt/L2.4	<ul style="list-style-type: none"> <li>Use format and structure to organise writing for different purposes.</li> <li>Present information and ideas in a logical sequence and provide further detail and development to clarify or confirm understanding.</li> </ul>	Achieved with support
CU2.1.4						
CU2.2.6				SLc/L2.4		
And shown knowledge and understanding of the following: CU2.1 b, e, I and CU2.2 f, i						
<b>Key Skills:</b> Successful completion of this assignment will cover the following Key Skills: Parts A and Part C – Level 1 C1.3 Write two different types of documents about different straightforward subjects. Parts B and Part D – Level 2 C2.2 Read and summarise; C2.3 Write two different types of documents; C2.1b Give a short talk.						

# Integrated assignment 2

## Planting plan

Planting plans are an important part of the gardening year if you work in horticulture. They tell you what needs to be planted and where.

In this assignment you will be looking at a summer bedding plan. You can show your knowledge of planting plans and find out more about some of the plants on the plan. You will need to complete Parts A–D:

- A** a list of plants needed from the planting plan
- B** a planting information table
- C** research into the care and maintenance of one type of plant from the planting plan
- D** a planting plan for one additional bed.

### PART A

Look at the planting plan and plants list for an Annual summer bedding scheme on page 33. Your team will be planting up Plot 8.

- 1 Create a table with the headings shown below. List the different plants and varieties you will need to collect from the nursery tunnels.

Plant	Named variety	Total required	Number of trays

- 2 Add up the totals for each plant.

- 3 Use the tray sizes below to work out how many trays of each you will need.

Single pots: Fuchsia, Canna, Abutilon,  
Heliotrope – half standard  
Tray (6): Iresine, Centaurea  
Tray (10): Dahlia  
Tray (20): Salvia, Heliotrope – ‘Marina’,  
Tray (30): Marigold, Cineraria, Begonia  
Tray (50): Lobelia, Alyssum

If you have any problems with this task you can look at the embedded paper-based materials Module 2: Growing.

## PART B

- 1 In order to plant effectively you need to know some basic information about each plant. Create a table with the headings shown below. List all the plant species (not varieties) used in Plot 8. Complete the table using your own knowledge, the plant catalogue or other reference materials. The first row has been done for you as an example.

Plant name (common or species name)	Type	Height	Position	Flowering time	Planting (spacing density, support)	Other information (particular soil preparation, watering, aftercare, etc.)
Abutilon	Tender perennial	45–60 cm	Light, sunny	Mid-June onwards	Towards back of bed – singles	Medium height – plant between Canna

- 2 Use the information in the table and the bedding scheme to explain to your teacher how you will plant up the bed. Include information about where you would put the different plants to achieve a good effect, special conditions required for plants and any care requirements for different plants.



**TASK C**

Your organisation is keen to give the public as much information as it can about the plants being used. Each bed will have an information board about one of the plants in the bed.

From the bedding scheme choose one plant that you are interested in. Find out as much as you can about the plant and complete the information board. Use the headings to help with your research or use your own format.

If you have any problems with this task you can look at the embedded paper-based materials Module 2: Growing.

	<i>Common or species name:</i>
	<hr/>
	<i>Latin name and variety:</i>
	<hr/>
	<i>Type</i> (annual, perennial, etc.):
	<hr/>
	<i>Description</i> (include size, flower, smell, special features):
	<hr/>
	<i>Propagation method:</i>
	<hr/>
	<i>Position and soil preparation:</i>
	<hr/>
	<i>Growing season:</i>
	<hr/>
	<i>Care:</i>
	<hr/>
	<i>Common pests and diseases (and treatment):</i>
	<hr/>

**Sources of information you can use:**

- plant catalogues
- Hessayon guides
- RHS plant guides
- the Internet
- ask a colleague or supervisor
- *The Green Code*

**PART D**

Plot 10 has not been planned.

Think about the bedding plan for Plots 8 and 9 and decide what would be suitable to put in Plot 10.

- 1 Use a plant catalogue or book to complete your own planting plan.
- 2 Draw the bed to show the positions of the plants.
- 3 List all the plants you will need and the numbers required.

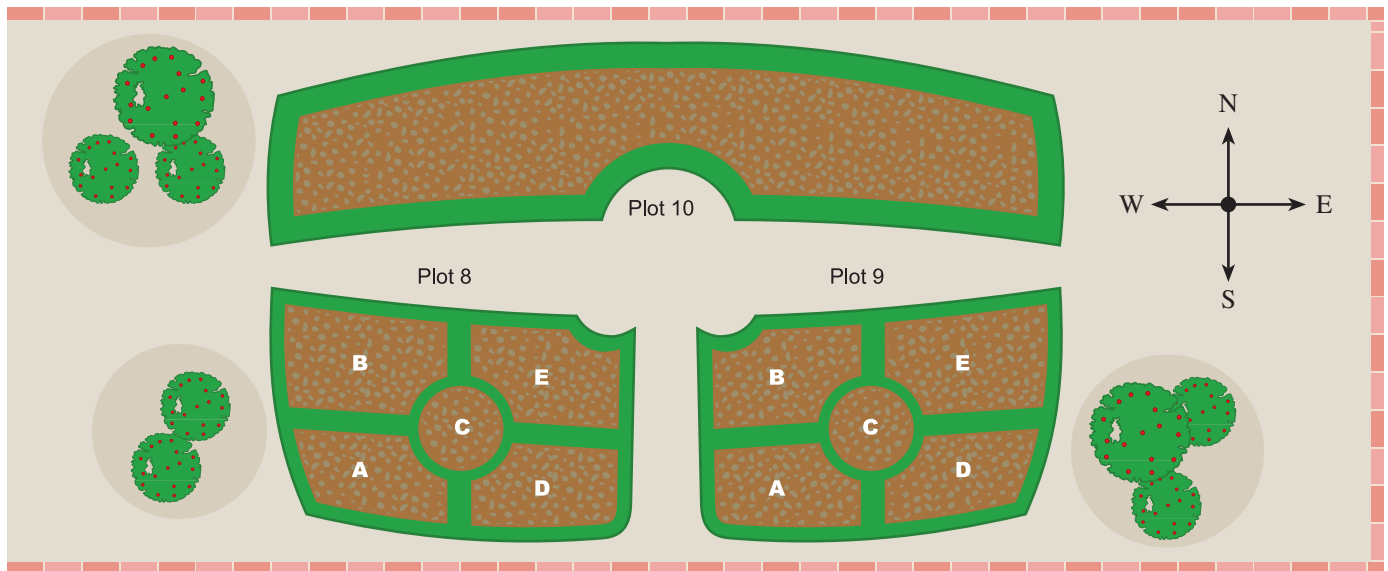
If you have any problems with this task you can look at the embedded paper-based materials Module 2: Growing.

<b>Horticulture Integrated assignment 2: Planting plan</b> This assignment relates to units from the following option groups within the National Occupational Standards: Nursery, Landscaping and interior landscaping. It practises the skills developed in Module 2: Growing of the Embedded Learning materials.						
Part A: Use a planting plan.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
L2.2	Establish plants outdoors <ul style="list-style-type: none"> <li>pc 1: Select plant material as requested.</li> </ul>			Rt/L1.5  Rt/L1.3  Rw/L2.1 N1/L1.1  N1/L1.3  N2/L1.11  MSS2/L2.2	Use different reading strategies to find and obtain information.  Identify the main points and specific detail and infer meaning from images which is not explicit in the text.  Read and understand technical vocabulary.  Read, write, order and compare numbers, including large numbers.  Add, subtract, multiply and divide using efficient written methods.  OR  Use a calculator to calculate efficiently using whole numbers, fractions, decimals and percentages.  Recognise and use common 2D representations of 3D objects.	
And shown knowledge and understanding of the following: <ul style="list-style-type: none"> <li>plant names and planting plans.</li> </ul>						

Part B: Planting information table.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
L2.2	Establish plants in soil pc 5: Position the plant material and provide nutrients and aftercare to meet the planting specification.	Achieved	Achieved with support	Rt/L1.5	Use different reading strategies to find and obtain information.	Achieved
L4.1	Establish decorative amenity areas <ul style="list-style-type: none"> <li>• Pc 5: group and position plants (and containers) to achieve an attractive effect.</li> <li>• Pc 6: use supports that maintain the plants' growth, appearance and visual impact.</li> </ul>	Achieved	Achieved with support	Rt/L1.4 SLc/L1.3	Use organisational and other structural features to locate information. Express clearly statements of fact, explanations, instructions, accounts and descriptions.	Achieved
L4.2	Develop the appearance of decorative amenity areas <ul style="list-style-type: none"> <li>• Pc 2: water and feed plants in a way that is appropriate to them and their environment.</li> <li>• Pc 6: Position plants (and containers) to develop the visual impact of the area and the clients requirements.</li> <li>• Pc 7: use support methods that develop the overall effect and the health and vigour of plants.</li> </ul>	Achieved	Achieved with support	SLc/L1.4	Present information and ideas in a logical sequence and include detail and develop ideas where appropriate.	Achieved
<p>And shown knowledge and understanding of the following:</p> <ul style="list-style-type: none"> <li>• plant requirements, support methods and how to group and position plants to achieve a visual impact.</li> </ul>						

Part C: Research into the care and maintenance of one plant from the planting plan.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
L2.1	Prepare ground for establishing plants.			Rt/L1.5	Use different reading strategies to find and obtain information.	
L2.2	Establish plants in soil.			Rt/L1.4	Use organisational and other structural features to locate information.	
L4.1	Establish decorative amenity areas.			Rw/L2.1	Read and understand technical vocabulary.	
L4.2	Develop the appearance of decorative amenity areas.			Wt/L1.2	Judge how much to write and the level of detail to include.	
CU76.1	Maintain the health of plants outdoors.			Wt/L1.5	Use formal and informal language appropriate to purpose and audience.	
CU76.2	Remove unwanted plant growth.			Ww/L2.1	Spell correctly words used most often in work, studies and daily life including familiar technical words.	
CU2.1.3	Communicate information to customers <i>(falls within the scope for this Customer Service Unit requiring information to be given in writing as well as verbally).</i>					
<p>And shown knowledge and understanding of the following:</p> <ul style="list-style-type: none"> <li>• suitable preparation for planting and establishing plants</li> <li>• positioning, watering and supporting plants</li> <li>• the importance of timing and seasonality and any threats to plant health.</li> </ul>						
Part D: Make a planting plan.						
NVQ refs	Performance criteria	Achieved	Achieved with support	Core curriculum refs	Core curriculum elements	Achieved with support
L4.1	Establish decorative amenity areas.			Wt/L2.4	• Use format and structure to organise writing for different purposes.	
L4.2	Develop the appearance of decorative amenity areas.			MSS2/L2.2	• Recognise and use common 2D representations of 3D objects.	
<p>And shown knowledge and understanding of the following:</p> <ul style="list-style-type: none"> <li>• plants and planting plans.</li> </ul>						
<p><b>Key Skills:</b> Successful completion of this assignment will cover the following Key Skills:            Level 1 C1.1 Take part in one to one discussion about different straightforward subjects;            C1.2 Read and obtain information from two different types of documents about straightforward subjects including at least one image;            C1.3 Write two different types of documents about straightforward subjects.</p>						

# Annual summer bedding scheme



## Dingle End

Dingle End			
Plot 8			Number
Plot 8A	Fuchsia	Mrs Marshall	3
	Canna	Red	7
	Dahlia	Downham Market	275
	Lobelia	Crystal Palace	250
Plot 8B	Fuchsia	Perry Park	3
	Heliotrope	Marina	400
	Centaurea		10
	Alyssum		260
Plot 8C	Fuchsia	Phyllis	6
	Canna	Green	5
	Abutilon		5
	Salvia	Blaze of fire	450
	Cineraria	Maritima	250
Plot 8D	Heliotrope	Half Standard	4
	Iresine		10
	Begonia	Pink	300
	Lobelia	Cambridge Blue	210
Plot 8E	Fuchsia	Thalia	9
	Iresine		9
	Marigold	Goldfinch	650
	Lobelia	Crystal Palace	240
Plot 9			Number
Plot 9A	Heliotrope	Half Standard	4
	Iresine		10
	Begonia	Pink	300
	Lobelia	Cambridge Blue	210
Plot 9B	Fuchsia	Thalia	9
	Iresine		9
	Marigold	Goldfinch	650
	Lobelia	Crystal Palace	240
Plot 9C	Fuchsia	Phyllis	6
	Canna	Green	5
	Abutilon		5
	Salvia	Blaze of fire	450
	Cineraria	Maritima	250
Plot 9D	Fuchsia	Mrs Marshall	3
	Canna	Red	7
	Dahlia	Downham Market	275
	Lobelia	Crystal Palace	250
Plot 9E	Fuchsia	Perry Park	3
	Heliotrope	Marina	400
	Centaurea		10
	Alyssum		260



# Source material

## Contents

Job description (1:7–1:8)	01
Appraisal preparation form (1:15–1:16)	02
Appraisal summary form (1:17–1:18)	03
Garden plan (2:3–2:4)	04
Hanging basket planting plan (2:9–2:10)	05
Introduction to the <i>Green Code</i> (3:3–3:5)	06–07
<i>Roundup</i> label (3:6–3:7)	08
Step-by-step calibration (3:11–3:13)	09
Nozzle chart (3:4–3:5)	10
Health surveillance record form (3:20–3:21)	11
Pre-shift checklist (4:5–4:6)	12
Defect reporting form (4:5–4:6, 4:13–4:14)	13
Troubleshooting table (4:11–4:12)	14
Parts diagram (4:15–4:16)	15
Parts list (4:15–4:16)	16



# Job description

**JOB TITLE:** Grower

**RESPONSIBLE TO:**

## **MAIN RESPONSIBILITIES:**

**'TO ENSURE CROPS MEET QUALITY SPECIFICATIONS AND DELIVERY SCHEDULES'**

### **1. WATERING AND FEEDING**

Monitor and maintain correct media moisture:

- Water and feed when needed by the crops at the correct timings. Care must be taken to make sure damage, disease or death of the crop does not occur due to excessive under or over watering.
- Mix appropriate feeds in bunded tanks, clearly labelled, with sufficient dye. Check pH and EC and record this and the batch number on the feed stock recording sheet.
- Check pH and EC of applied feeds to ensure they are of correct strength using guidelines provided.
- Follow procedure for spillages and not allow feeds to be washed down open drains.

### **2. GLASSHOUSE UPKEEP**

Perform the following routines in their area:

- Clean weekly feed dilutors using citric acid.
- Clean (where provided) boom filters.
- Keep designated growing area free of weeds.
- Keep designated growing area free of other debris, e.g. trays, compost, etc.
- Keep hosepipes and other equipment stored neatly and not to cause a hazard.
- Pressure wash and then seal or reseal with floor sealant any paths affected by algae.
- Keep floors clean with regular washing down.
- Monitor glasshouse environments and notify crop manager if settings appear incorrect.
- Check booms, screens, vents, fans, fog, dilutors, EC & PH meters are working correctly and report any fault found.

### **3. SPRAYING AND DRENCHING**

- Ensure correct application of PGR's and pesticides to crops as required within designated growing area, according to pesticide rota in diary. This information must reflect all treatments especially when it does not relate to the whole crop/batch.
- Ensure conditions are suitable for spraying. Unsuitable conditions would be high temperatures, bright sunshine, frosts and staff working in the area.
- Avoid waste by mixing the correct amount of product.
- Use the bio-beds for washing out all spray equipment which have been used for the following product types: fungicides, insecticides, plant growth regulators. The bio-bed is not to be used to wash out equipment used for acid washing or weed killing. No washing out to occur in the glasshouses unless directed to do so by a supervisor.

### **OTHER RESPONSIBILITIES:**

- Monitor for signs of any pest, disease or damage and notify crop manager and take appropriate control action.
- Maintain good flow of information and liaise with other staff to enable efficient working practices.
- Perform general nursery work as and when asked to do so.
- Ask for assistance if unsure or in need of help.
- Shut doors, curtains and hatches as you leave the nursery in the evening.
- Help acid wash when required.
- Assist R&D department with any trials work that is being performed in your area and report back relevant information when required.
- Check and adjust as necessary your aspirated screens on a weekly basis.

# Appraisal preparation form

## Appraisal Preparation Form

Your annual appraisal is an opportunity to evaluate your own practice, to recognise existing skills and to monitor progress. It is also an opportunity to highlight concerns and discuss training needs.

In order to prepare for your annual appraisal, you are advised to think about each of the following aspects of your performance and to note down any points that you wish to discuss.

Knowledge	
Reliability	
Quality of work	
Quality of work	
Team work	
Communication	
Initiative	
Attitude to job	
Organisation	
Health and safety	

Remember that appraisal should be regarded as a constructive and positive process.

# Appraisal summary form

## Appraisal Summary

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Strengths

\_\_\_\_\_

### Concerns

- 
- 
- 
- 
- 
- 
- 
- 

### Training needs

\_\_\_\_\_

### Action

Please identify action to be taken by yourself and others and by when you hope to complete them.

1

2

3

4

5

6

7










Date of next review \_\_\_\_\_

Signed \_\_\_\_\_ (appraisee)

Signed \_\_\_\_\_ (appraiser)

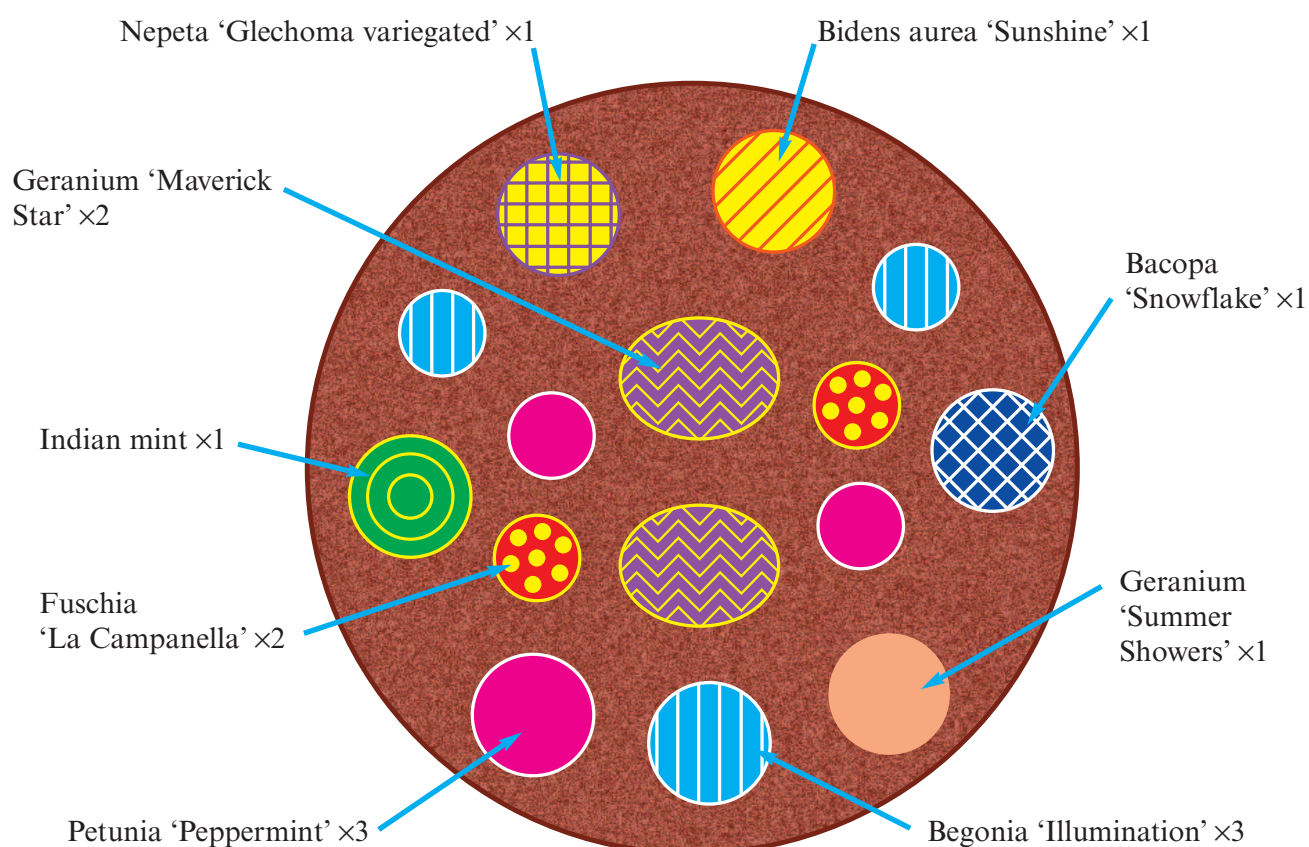
# Garden plan










**Key**

 path	 lavender hedge	 grass
 beech hedge	 fountain	 perennials
 railings	 statue	 beds



# Hanging basket planting plan



Code	Plant name	Number of plants per basket	Number of plants per tray
	Nepeta 'Glechoma' variegated	1	35 (7 × 5)
	Geranium 'Maverick Star'	2	8 (2 × 4)
	Indian mint	1	42 (6 × 7)
	Fuschia 'La Campanella'	2	6 (2 × 3)
	Petunia 'Peppermint'	3	40 (8 × 5)
	Begonia 'Illumination'	3	63 (7 × 9)
	Bidens aurea 'Sunshine'	1	24 (6 × 4)
	Bacopa 'Snowflake'	1	9 (3 × 3)
	Geranium 'Summer Showers'	1	4 (2 × 2)

# Introduction to the *Green Code*



## introduction

### Introduction



#### Who should read this Code?

1. Anyone who uses pesticides on farms and holdings or provides advice or practical assistance to farmers or growers should read this Code. Anyone who uses pesticides in other circumstances should read the Health and Safety Commission's Approved Code of Practice *The Safe Use of Pesticides for Non-Agricultural Purposes*.

#### What advice is contained in the Code?

2. This Code explains how to:
  - a. use safely pesticides approved under the Control of Pesticides Regulations 1986 (as amended) (COPR);
  - b. use safely plant protection products approved under the Plant Protection Products Regulations 1995 (as amended) (PPPR). The general conditions of use of these products are set out in the Plant Protection Products (Basic Conditions) Regulations 1997 (PPP(BC)R) and are the same as for pesticide products approved under COPR;
  - c. comply with the Control of Substances Hazardous to Health Regulations 1994 (as amended) (COSHH), which places additional duties on employers and self-employed people.
3. Any reference to pesticides in this Code can therefore be taken to include plant protection products. However, certain pesticides are exempt from controls under these Regulations; notably authorised animal medicines, e.g. sheep dips.

#### Part III of FEPA applies to:

- a. any pesticide; or
- b. any substance, preparation or organism prepared or used for any of the following purposes as if it were a pesticide:
  - protecting plants or wood or other plant products from harmful organisms;
  - regulating the growth of plants;
  - giving protection against harmful creatures;

- rendering such creatures harmless;
- controlling organisms with harmful or unwanted effects on water systems (including sewage treatment works) buildings or other structures, or on manufactured products;
- protecting animals against ectoparasites.

#### Other advice

4. To use pesticides safely and correctly, it may be necessary to draw on other advice issued by Government or the industry. A comprehensive list of Codes of Practice, guidance notes and other advice is provided in the bibliography at Annex A.

#### Special terms

5. Some of the words and phrases used in this publication have a particular meaning. Some are already defined in legislation. Where appropriate, these terms are defined in the glossary at Annex B. At Annex C there is a glossary of terms most commonly used for equipment/methods. This may help users determine the type of pesticide application equipment/methods that are covered by a certificate of competence.

#### Good plant protection practice and integrated control

Users need to recognise when (and when not) to use a pesticide and, if use is appropriate, to select one of lower risk.

6. The PPPR requires that the proper use of a pesticide shall include the application of the principles of good plant protection practice as well as, wherever possible, the principles of integrated control. In the case of pesticides, integrated control seeks to minimise any risks to the wider environment by limiting the amount of pesticide used to that necessary to control pests at levels that do not cause unacceptable economic losses. This is achieved by combining chemical control measures with other, often traditional measures, such as cultural and/or biological controls, or plant breeding measures. (See definition at Annex B). Paragraphs 28-38 provide further guidance on how to minimise pesticide use.





**Unlock the weedkilling power of**

# Roundup<sup>®</sup> PRO

**BIACTIVE<sup>®</sup>**  
Herbicide by Monsanto

*the professionals choice*

MAPP 10330

**For the control of Annual and Perennial Grass and Broad-leaved Weeds.**

FOR USE ONLY AS A HORTICULTURAL/ INDUSTRIAL/FORESTRY/AQUATIC HERBICIDE

Lot Number:  
Production Date:

GB, 0302, F - 1035 7180

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A Foliar Applied Translocated Herbicide for the Control of Emerged Weeds in Industrial and Amenity Situations, in Forestry and in Aquatic areas. Biodegrades in Soil and Water.

A soluble concentrate formulation containing 360 g/litre glyphosate, present as 480 g/l (41.1 % w.w.) isopropylamine salt of glyphosate

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product.

READ CAREFULLY THE RECOMMENDATIONS FOR USE ATTACHED TO THIS CONTAINER

Detailed advice on the use and handling of this product are contained in the label attached to this container. All users must ensure that they have read this label and follow its advice before using the product. In the event of the label being detached from the container prior to ultimate sale the user should contact his distributor for an additional copy.

PROTECT FROM FROST IMPORTED

**MONSANTO UK LIMITED,**  
The Mains Centre,  
Haughton Road, Trumpington,  
Cambridge, CB2 2LQ.  
Tel: (01223) 84 92 00  
Tel: (01223) 84 95 40 Technical Enquiries  
E-mail: technical.help@monsanto.com

**In case of emergency day or night, telephone National Chemical Emergency Centre (018 65) 40 73 33.**



**MONSANTO**

**e1L** litre

WVP-EMB Monsanto B-2040

**WARNING**  
TAKE EXTREME CARE TO AVOID DRIFT. DO NOT MIX, STORE OR APPLY ROUNDUP<sup>®</sup> PRO BIACTIVE<sup>®</sup> IN GALVANISED OR UNLINED MILD STEEL CONTAINERS OR SPRAY TANKS. DO NOT leave spray mixtures in tank for long periods and make sure tanks are WELL VENTILATED.

**STATUTORY CONDITIONS RELATING TO USE**

Use Situations	Maximum individual dose of product
Natural surfaces not intended to bear vegetation permeable surfaces overlying soil, hard surfaces. Enclosed waters, open waters, land immediately adjacent to aquatic area.	5 litres/hectare
Forest, Forest nursery	6 litres/hectare
·Weed control ·Stump application	10 litres/hectare 200 ml/litre of water (20 % solution of product in water) 2 ml per 10 cm diameter (or less) of tree

·Chemical thinning (by injection)  
Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment. See PRECAUTIONS (marked \*). However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

**Environmental Protection**  
Users must consult the appropriate water regulatory body (Environment Agency/Scottish Environmental Protection Agency) before using the product near water and must obtain their agreement before using this product to control aquatic weeds.

**Other Specific Restrictions**  
When applying through rotary atomisers, the spray droplet spectra produced must be of a minimum Volume Median Diameter (VMD) of 200 microns. When using weedwipers, the maximum concentration must not exceed the following:

- (a) Weedwiper (ml) - 1:2 dilution with water
  - (b) Other wipers - 1:1 dilution with water
- For stump application, the maximum concentration must not exceed 200 ml of product per litre of water (ie, a 20 % solution).  
**READ ALL PRECAUTIONS BEFORE USE** **MAPP No. 10330**

**PRECAUTIONS**

- \* WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate.
  - \* WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when using hand held rotary atomisers, weed wipers, a spot gun or when making cut stump applications.
  - \* WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS AND FACE PROTECTION (FACESHIELD) when using the stem injection technique.
  - \* WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES, RUBBER BOOTS, FACE PROTECTION (FACESHIELD) AND SUITABLE RESPIRATORY PROTECTIVE EQUIPMENT (DISPOSABLE FILTERING FACEPIECE RESPIRATOR) when making drift applications and when using mist-blower equipment. DO NOT CONTAMINATE surface waters or ditches with chemical or used container. WASH HANDS AND EXPOSED SKIN before meals and after work. KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS. KEEP OUT OF REACH OF CHILDREN. KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place. WASH OUT CONTAINER THOROUGHLY empty washings into spray tank and dispose of safely.
  - \* ROUNDUP is a Registered Trade Mark of Monsanto Company.
  - \* BIACTIVE is a Registered Trade Mark of Monsanto Company
- This product is approved under the Control of Pesticide Regulations (1986).  
Not for reformulation or re-packaging. No licence is granted under any U.S. patent.



# Step-by-step calibration

<b>Step 1</b>	<i>Calculate the area of the plot you want to spray. You need to measure the length and width.</i>
<b>Area</b>	$\text{length} \times \text{width} = \text{area of a rectangle (m}^2\text{)}$ $\boxed{\phantom{000}} \times \boxed{\phantom{000}} = \boxed{\phantom{00000}} \text{ square metres}$
<b>Step 2</b>	<i>Measure out 100 metres.</i>
<b>Walking speed</b>	<i>Measure in seconds the time to walk 100 metres.</i> $\text{Walking speed} = 360 \div \text{time taken}$ $\text{Walking speed} = 360 \div \boxed{\phantom{000}} = \boxed{\phantom{000}} \text{ km/h (kilometres per hour or kph)}$
<b>Step 3</b>	<i>Swath is the width of spray with a selected nozzle.</i>
<b>Swath width</b>	<i>Check the label to check that you have the correct nozzle.</i> <i>Spray a length of dry concrete with water.</i> <i>Measure the width accurately.</i> $\text{Swath} = \boxed{\phantom{000}} \text{ metres}$
<b>Step 4</b>	<i>Measure the output through the nozzle by spraying into a clearly marked measuring jug for 1 minute (or 30 seconds and double the result).</i>
<b>Flow rate</b>	$\text{Flow rate} = \boxed{\phantom{000}} \text{ litres per minute}$
<b>Calibration formulae</b>	
<b>Step 5</b>	<i>Use a standard formula and put in the figures from your other calculations.</i>
<b>Spraying volume</b>	$\text{Volume/hectare} = 600 \times \text{flow rate (l/m)} \div \text{swath width (m)} \div \text{walking speed (km/h)}$ $\text{Vol/ha} = 600 \boxed{\phantom{000}} \times \boxed{\phantom{000}} \div \boxed{\phantom{000}} \div \boxed{\phantom{000}} = \boxed{\phantom{00000}} \text{ l/ha}$
<b>Step 6</b>	<i>The volume of mixture (i.e. pesticide diluted with water) you will need for the plot you are spraying.</i>
<b>Amount of mixture for area</b>	$\text{Amount of mixture} = \text{Vol/ha} \div 10\,000 \times \text{area}$ $\text{Mixture} = \boxed{\phantom{000}} \div 10\,000 \times \boxed{\phantom{000}} = \boxed{\phantom{00000}} \text{ litres}$
<b>Step 7</b>	<i>This is the amount of pesticide that you will need to make up enough mixture for the area.</i>
<b>Amount of chemical</b>	<i>You need to look up the dose rate on the pesticide label.</i> <i>The amount will often be less than 1 litre. There are 1000 millilitres in 1 litre.</i> <i>Multiply by 1000 to convert litres to millilitres (e.g. 0.25 litres = 250 ml).</i> $\text{Amount of chemical} = \text{application rate} \div 10\,000 \times \text{area}$ $\text{Chemical} = \boxed{\phantom{000}} \div 10\,000 \times \boxed{\phantom{000}} = \text{litres} = \boxed{\phantom{00000}} \text{ ml}$

# Nozzle chart

Nozzle code	11001	11002	11002	11003	11004	11005	11006	11008
ISO colour	Orange	Green	Yellow	Blue	Red	Brown	Grey	White
Pressure in bar	1.5	0.29	0.42	0.56	0.85	1.13	1.41	2.26
	2.0	0.33	0.49	0.65	0.98	1.31	1.63	2.61
	2.5	0.37	0.55	0.73	1.10	1.46	1.82	2.92
	3.0	0.40	0.60	0.80	1.20	1.60	2.00	3.20
	3.5	0.43	0.65	0.86	1.30	1.73	2.16	3.45
	4.0	0.46	0.69	0.92	1.39	1.85	2.31	3.69
Nozzle output = litres/minute								
Spray quality	Fine	Fine/Medium	Medium	Medium/Coarse	Coarse			

# Health surveillance record form

## Employee

Surname

Forename

Sex

Date of birth

Home address

National Insurance number

Started work

## Previous employment

Date

Job title

Pesticides exposed to


## Substance contact record since work started

Date

Pesticides exposed to

Frequency


## Skin surveillance

Date

Observation

Signature


# Pre-shift checklist

Pre-shift Checklist							
Vehicle registration: DR21 TYP				Week no: 15			
Item to be checked	Sat	Sun	Mon	Tues	Wed	Thurs	Fri
1. Clock hours							
2. Fluid levels (engine, hydraulics, transmission, battery)							
3. Coolant level							
4. Wheels (wheel studs, tyre condition)							
5. Light/horn/wipers/indicators/mirrors							
6. All glass: lights/lenses/mirrors/trailer lights							
7. Check hydraulics for leaks							
8. Brakes/handbrake							
9. Guards all fitted (inc PTO)							
10. Defect reporting form reference number if applicable							
Comments							
Initials							
<p>All defects that cannot be rectified immediately must be recorded on a defect reporting form.  <b>Do not drive a vehicle if you have any concerns about its safety.</b></p>							

# Defect reporting form

DRF3004



## *Greenstuff and Co*

### DEFECT REPORTING FORM

To be completed by operator and given to Manager/Supervisor immediately.

*Vehicles with identified defects should NOT be used until they have been inspected by workshop staff or permission has been given by the Manager/Supervisor.*

Name of person reporting defect .....

Date ..... Time .....

Location .....

Vehicle registration and/or machine ID

.....

Description of defect

.....

Name of manager/supervisor informed .....

#### **For Manager/Supervisor to complete:**

Date received ..... Time .....

Action taken .....

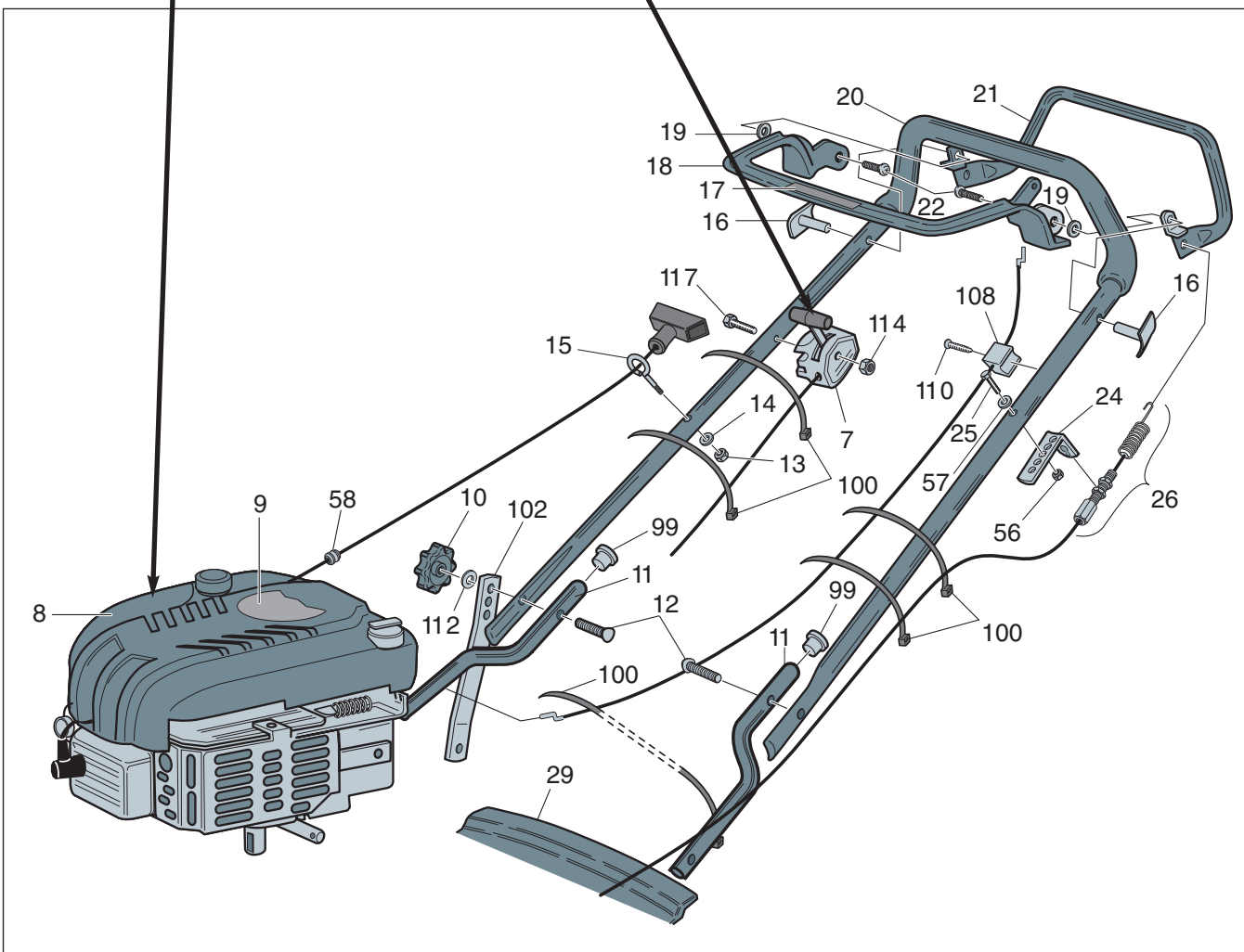
Signature .....

Must be signed before detaching top copy. Top copy to be given to workshop supervisor. Bottom copy to be kept in tractor file.

# Troubleshooting table

Problem	Possible fault	Remedy
<b>Engine will not turn over</b>	Engine stop lever released Incorrect oil level Obstruction under deck	Operate engine stop lever Check oil level Remove obstruction
<b>Engine smokes</b>	Excess oil level Air cleaner cartridge oil soaked or blocked	Check oil level Service air cleaner
<b>Engine runs then stops</b>	Fuel starvation Fuel cap vent blocked	Fill fuel tank Clean fuel cap vent
<b>Engine will not start</b>	Engine under load Fuel starvation Engine cold Incorrect/contaminated fuel Spark plug lead disconnected Throttle setting incorrect Engine brake not released Faulty spark plug Wiring fault	Raise height of cut Fill fuel tank Set throttle to 'choke' position Drain fuel tank and fill with correct fuel Connect spark plug lead Set throttle to 'fast' position Operate engine brake lever Clean and adjust gap or replace Check wiring
<b>Engine vibrates excessively</b>	Mounting bolts loose Cutterblade bolt loose Cutterblade out of balance Bent crankshaft	Tighten bolts Tighten bolt Balance cutterblade Consult your dealer
<b>Uneven cut</b>	Undulating ground conditions Cutterblade worn Cutterblade out of balance Wheels/roller damaged	Change direction of travel Sharpen the cutterblade Balance the cutterblade Inspect and replace as necessary
<b>Discharge chute blocks</b>	Grass is wet Cut height too low Grassbag full Airflow through the grassbag is restricted Engine speed too low	Mow dry grass Increase cut height Empty grassbag Clean the grassbag Set throttle to 'fast' position
<b>Mower is hard to push</b>	Cut height too low Wheels/roller damaged	Increase cut height Inspect and replace as necessary
<b>Mower will not self-propel</b>	Clutch out of adjustment Drive belt damaged	Adjust clutch cable Replace drive belt
<b>Poor grass collection</b>	Airflow through the grassbag is restricted Discharge chute blocked Grass is wet Grassbag full Engine speed too low	Clean the grassbag Remove blockage Mow dry grass Empty grassbag Set throttle to 'fast' position

# Parts diagram



# Parts list

<b>Parts List</b>			
No	Description	Part no	QTY
1	Mainframe – Casting	486015V	1
2	Plate – Location RH	480083V	1
3	Clamp – Boss Inner	480084W	2
4	Clamp – Boss Outer	480085W	2
5	Nut – Nycloc Insert ‘T’ Type	09441	4
6	Key – Woodruff	1662	1
7	Throttle control switch	486031	1
8	Engine B/S Intek edge 55 OHV	486040	1
9	Decal engine	486005	1
10	Knob – Handlebar	480088	2
11	Handlebar – Lower	480168W	2
12	Bolt – Handlebar	09785	2
13	Nut – Nylon insert	09544	1
14	Washer – Plain	09472	1
15	Guide rope	305093	1
16	Pin – Pivot	340182	2
17	Decal – Engine stop	331046	1
18	Lever – Engine	340179	1
19	Washer – Nylon	09688	2
20	Handlebar	341029	1
21	Lever – Clutch	306094W	1
22	Screw	09687	2
23	Cable guide	480123	1
24	Bracket – Cable clutch	306108	1
25	Screw	09704	1
26	Cable – Clutch	480094	1
29	Deflector – Rear	480140	1
30	Pin – roll	03997	1
31	Spring – Deflector LH	480131	1
32	Rod – Deflector LH	480062	1
33	Screw – Pozi Pan Taptite	09575	2
34	Bolt – Coach	09549	2



# Glossary

- abbreviation** a shortened word; usually the first letter or letters of words (e.g. m for metre, kph for kilometres per hour)
- abrade** to scrape or wear away
- abrasive** rough or scratchy
- acaricide** something used to kill mites and ticks
- accurate** correct and precise
- active** lively, working
- admittance** entry
- advisory** recommended
- aerial spraying** spraying by plane
- air restriction indicator** gauge on the control panel to show how easily the air is flowing into the engine
- ambient** surrounding
- amenity** a place that is useful or pleasant
- annual** happens every year
- apex** the highest point of something
- application rate** the amount of pesticides applied to an area
- appraisal** a system used in the workplace by which the employee and employer assess progress and training needs; this is usually completed during an interview with a line manager
- appreciation** an understanding of something
- area** a measurement of the surface of a piece of land. The area of a rectangle is calculated by multiplying the length by the width.
- assembly base** base on which a machine is put together
- average** the usual or ordinary amount; also referred to as the 'mean'
- bactericide** something used to kill bacteria
- bar** unit used to measure pressure
- bedding plan** plan to show type and number of bedding plants for a particular plot
- biocide** something used to kill algae
- bird's-eye view** looking down on something – as a bird flying would be able to do
- body language** the signals communicated to others through hand movements, the position of the body, and head movements, such as nodding
- bout** width of spray (another word for swath)
- breach** to break (rules)
- calibration** working to standard scale or setting (e.g. spraying application)
- cartridge** self-contained unit (e.g. machinery component)
- casual** informal, relaxed
- climber** a climbing plant (e.g. clematis)
- clock hours** the number of hours recorded on the machine's clock, showing how many hours it has worked
- code of practice** system of working; may be internal policy or required by law, depending on the situation
- colleagues** people you work with
- colloquial** informal language that is simple and conversational
- comply with** do as told to; fit in with (e.g. rules and regulations)
- components** parts, pieces of machinery
- compulsory** must be done
- concentrate** a substance that has not been diluted with water or another liquid
- confine** restrict, keep in one place or area
- constructive** helpful, leading to positive ways forward
- contagion** infection
- containerised** grown in a container or pot
- contaminate** to pollute or infect
- contribution** a payment
- COPR** Control of Pesticides Regulations (abbreviation)
- corrosive** burns like acid
- COSHH** control of substances hazardous to health (abbreviation)
- cultivar** a species of plant created by selecting certain plant features
- dead head** remove dead flower heads from plants
- deciduous plant** plants that lose their leaves in the winter
- deduction** payment, subtraction
- defect** a fault
- deflector tips** attachment used to adjust the spray width on a knapsack sprayer
- dependability** reliability and trustworthiness
- detergent** cleansing chemical
- diagram** technical drawing, often with labels
- dibber** a tool used for making small holes to plant seedlings into
- dilute** to mix with water to reduce concentration
- diluting** weakening a mixture by watering it down with another substance, usually water
- discard** to throw away
- disciplinary procedure** action that takes place when rules have not been obeyed

- divisions** marks on a scale to show different measurements (e.g. measuring jug, ruler, thermometer)
- drive belt** belt that transfers power from engine
- element** a part
- eliminate** get rid of, remove
- emerge** become visible (e.g. seedling)
- ensuring** making sure
- entitlement** what you have a right to
- ericaceous** relating to the family of heathers and azaleas
- estimate** using your experience to make an informed guess or to approximate a number
- evaluate** to think about, to consider carefully
- excess** more than is needed
- exploded diagram** diagram to show all parts of a machine correctly placed but spread out, with a number for each part
- explosive** likely to explode or blow up
- exposure** contact with
- facial expression** the signals communicated to others through the expression on the face (e.g. smiling, frowning)
- fairway** track of grass on a golf course from the tee to the green
- FEPA** Food and Environmental Protection Act (abbreviation)
- flammable** will catch fire easily
- floral pole** pole planted with climbing plants and hanging baskets
- foliage** leaves
- formal language** spoken or written language using standard English – no use of casual/relaxed language
- formula** (plural: **formulae** or **formulas**) in maths, a rule or relationship, shown in symbols; a set method used to do a calculation
- fractured** broken
- fungicide** something used to kill fungi
- gander round** slang for 'look around'
- generic** common, belonging to a genus or category of plants
- genus** a category or family of plants (or animals) with common characteristics (e.g. maple or oak)
- germicide** germ killer
- gist** the general idea
- glossary** list of technical words, with meanings
- graffiti** writing or drawings scribbled or painted on notices and walls in public places
- graphics** pictures, plans or diagrams
- gross** the full amount
- growing medium** substance in which something grows, could be soil
- guard** protective shield
- guidance** advice on good practice
- habitat** where something prefers to live
- hazardous** dangerous
- hazards** conditions or equipment that can cause harm
- herbicide** something that kills plants
- humane** not causing pain, kind
- hydraulic** using liquids under pressure to lift and lower equipment
- hydraulic fluid** fluid used within the hydraulic system
- hypothermia** low body temperature caused by extreme cold
- incident** an event or something that happens
- indicates** shows
- inflammable** will catch fire easily (i.e. flammable)
- inflammation** swelling
- informal** casual, relaxed; informal language can be quite 'chatty'
- inoculation** an injection/vaccination
- insecticide** something that kills insects
- install** to put in or attach
- irritant** something that causes irritation such as skin rashes or itching
- jeopardise** to put at risk or in danger
- junction** the point where two things (e.g. paths) cross or join
- kick off** start
- lance** part of the knapsack spraying equipment
- legal status** as required by the law
- legislation** law
- LERAP** local environmental risk assessment for pesticides (abbreviation)
- logical** makes sense
- lubricate** apply oil or grease
- maintenance** to keep in good order, service the machines
- managerial** in a management position
- mandatory** compulsory, must be done
- manual** book or guide supplied with a piece of equipment or machinery to help people use it safely and to keep it maintained properly
- MEL** maximum exposure limit (abbreviation)
- model code** the series of letters and numbers used to indicate the particular model of a piece of equipment
- molluscicide** something that kills slugs and snails

- monitor** check
- mountings** brackets that are used to fix engine parts to the main body of a machine
- mower deck** mowing attachment that fits on to the main machine
- nearside** left-hand side of the vehicle as you sit in the driver's seat; the side nearer the kerb on a road
- net** what is left over
- NI** National Insurance (abbreviation)
- NI no.** the personal National Insurance number that every employee has
- NIC** National Insurance contributions (abbreviation)
- NPTC** National Proficiency Tests Council (abbreviation)
- nutrient** a substance that feeds plants
- NVQ** National Vocational Qualification (abbreviation)
- occurrence** something that happens, an event
- OES** occupational exposure standard (abbreviation)
- Offside** right-hand side of the vehicle as you sit in the driver's seat; the side away from the kerb
- output** the amount of liquid put out by a sprayer in a set time
- oxidising** oxygen combining with other substances, may cause an explosion
- PAYE** Pay As You Earn (abbreviation); the system by which most employees pay tax
- per** for every (e.g. £5 per hour, 10 kilometres per hour)
- perennial** type of plant that lives for several years
- periodic** every so often, at regular intervals
- permission** told you can do something
- pesticide** something that kills pests
- petroleum solvents** substances which break down/dissolve other substances
- pH** a value that shows how acid something is (e.g. soil); a low value is acidic; a high value is alkaline
- policy** a general plan of action, rules to be followed in a company
- post** after
- PPE** personal protective equipment (abbreviation)
- PPPR** Plant Protection Products Regulations 1995 (as amended) (abbreviation)
- precaution** safety measure
- precise** exact
- pre-shift** before work begins
- pre-start** before starting the machine
- pricking out** planting out seedlings into small holes in soil
- primary** first
- prioritise** decide what is most important
- procedure** the way in which rules or jobs should be carried out
- prohibition** not allowed
- protective** protects; prevents injury or damage
- protruding** sticking out
- prunus** type of tree (e.g. cherry)
- PTO** power take off (abbreviation); this shaft transmits power from the engine to an attachment
- PTO guard** a protective cover for the PTO
- reassuring** encouraging; giving confidence
- rectified** put right
- regulation** a rule
- remedy** a cure or solution
- residual** left over
- RIDDOR** reporting of injuries, diseases and dangerous occurrences (acronym)
- rodenticide** something that kills rodents (rats, mice, etc.)
- routine** regular, everyday
- RPE** respiratory protective equipment (abbreviation)
- sarcastic** mocking; rude
- saturate** to completely soak
- scan** to look through quickly (e.g. a piece of writing, to find particular words or phrases)
- schedule** a timetable or order of events
- secondary** second
- seedlings** small plant raised from seed
- sequence** one thing following on from another – the order of things
- service** to repair or maintain a machine
- slack** not tight
- slang** very informal language that is usually used by a particular group of people
- species** type
- specification** specific information about machinery parts
- standardised** common to all
- statutory** required by law
- strimming** cutting back top growth, with a strimmer; often done in areas that are difficult to mow
- swath** width of spray
- syllable** parts of a word, for example the word 'cabbage' has two parts or syllables: 'cab-bage'; Rho/do/den/dron has four syllables
- symbols** marks or signs with a particular meaning (e.g. health and safety signs)
- systematic** following a plan or system
- technical** relating to a particular subject or area of work
- terminology** the words of a particular topic

**tetanus** a disease caused by germs from the soil entering the body through cuts and grazes

**'thingy'** slang for an object when its name is not known

**throttle** pedal controlling fuel supply to the engine

**time and a half** basic hourly wage plus half as much again

**tone (of voice)** the attitude of a person revealed by the sound of their voice

**top dressing** compost spread over the soil

**toxic** poisonous

**troubleshooting** looking for answers to problems, tracing and correcting faults

**vacuum** without air

**valid** suitable, legal (e.g. driving licence)

**verbally** spoken

**vermicide** something that kills worms

**vibration** shaking

**virtually** almost

**viscosity** stickiness, thickness (e.g. of oil)

**volume of work** the amount of work

**vowel** letters of the alphabet: a, e, i, o and u

**'what's-its-name'** slang for an object when its name is not known