

## Prepare and operate a base machine with attachments

### Overview

This standard covers the preparation and operation of a base machine with attachments. The competent use of a base machine with attachments requires considerable skill and knowledge.

The standard covers the use of base machines with a range of attachments in a variety of weather conditions, ground conditions and terrain. These conditions will have an impact on the handling and use of the base machine and attachments.

When working with machinery you need to be appropriately trained, and hold current certification where required, in line with relevant legislation.

When using the base machine on the public highway you will need to hold the appropriate licenses for yourself and the machine.

Your work must conform to all relevant legislation and codes of practice when carrying out this work.

## Prepare and operate a base machine with attachments

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### Performance criteria

You must be able to:

1. assess the risks associated with the site and the proposed work
2. select and use the appropriate personal protective equipment (PPE) for the work
3. select the right base machine for the work you are doing
4. prepare the base machine by carrying out pre-start checks and adjustments, in accordance with specifications, including all safety guards
5. confirm the base machine is safe and ready for use
6. check and adjust the operator environment to meet your personal requirements
7. select the appropriate attachments to carry out the required work
8. make sure the attachments are suitable for the base machine
9. make sure the attachments are fitted securely and safely
10. check the immediate work area for hazards and obstacles before moving off
11. use the correct warning signals at all times
12. operate and manoeuvre the base machine safely, and in a way that is consistent with the type of vehicle, attachment and operation
13. make sure the attachment is in transport position when not in use, in accordance with specifications
14. modify operating procedures to take into account any changes in weather, ground conditions, types of terrain and site restraints
15. utilise additional safeguards when reversing or manoeuvring and comply with safety distances adjacent to roads and tracks or where others are working
16. maintain the efficiency of base machine and attachment performance through the appropriate handling and maintenance
17. deal with any hazards and obstacles encountered during the operation, in accordance with standard practice
18. monitor the operation of the attachment and recognise any faults
19. stop and isolate the base machine on completion of the activity, in line with standard practice
20. remove the attachment, where appropriate, in accordance with specifications
21. leave the base machine and attachment secure after use and in a suitable condition for future use
22. follow environmental good practice as set by your organisation and the industry, and minimise environmental damage
23. maintain the health and safety of yourself and others at all times, in accordance with relevant legislation



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**Knowledge and understanding**

You need to know and understand:

1. how to identify hazards and assess risks
2. how to interpret risk assessments
3. the selection, use and care of personal protective equipment (PPE)
4. the current legislation in relation to the use of base machines and attachments and the legal requirements for checking equipment
5. the required pre-start checks and adjustments for the base machine and attachments, and the reasons why these must be carried out
6. the requirements for machine and operator protection structures
7. the procedure for loading and unloading base machine and attachments from transporter where appropriate
8. how to mount and dismount the base machine safely
9. how to start and stop the base machine including the correct procedures for jump starting
10. the function of all controls and instruments for the base machine and the attachment, including on board computer systems where fitted
11. the types of attachments that are safe for use with the base machine and how they are fitted
12. the conditions that should be taken into account when considering the use of attachments
13. how to set or calibrate attachments, where required
14. the appropriate use of warning signals and indicators
15. the ways in which the base machine should be operated and manoeuvred, and how different weather, ground conditions, types of terrain and the work being carried out must be taken into account
16. the various driving characteristics and techniques for driving a base machine with different wheel configurations
17. correct fitting of traction aids and advantages and disadvantages of using them
18. how to operate and use attachments safely including the counterbalance
19. the controls and electrical services on the base machine and the attachment
20. how to put the attachment into transport position and work position, where appropriate
21. the capabilities of the base machine and the factors that may affect its efficiency
22. the types of hazards and obstacles that may be encountered and how these should be dealt with
23. how to monitor the operation of the attachment and the actions that might

## Prepare and operate a base machine with attachments

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- be required
- 24. the faults, defects and wearing of parts that occur with attachments used for treework operations
- 25. how to preserve the efficiency of the base machine and attachment through routine operator checks and basic maintenance in line with specifications
- 26. how to carry out basic repairs and where to refer problems with the base machine or attachment
- 27. the reasons why the base machine and attachment should be left in a suitable condition for future use
- 28. how to set up and use fuelling and maintenance areas where appropriate
- 29. the importance of minimising environmental damage and preventing pollution incidents
- 30. why it is important to maintain the safety and security of the base machine and attachment at all times
- 31. your responsibilities under relevant environmental and health and safety legislation and codes of practice

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### Glossary

#### Specifications:

- drawings
- schedules
- method statements
- Standard Operating Procedures (SOPs)
- manufacturers' guidelines
- customer requirements

Instructions may be verbal or written

#### Attachments include:

- trailed
- front or rear mounted
- loaders
- PTO and hydraulic drive equipment

#### Operator environment:

- seat
- steering wheel
- mirrors
- seat belt

#### Ground conditions:

- Wet
- Dry
- Frost
- Ice
- Mud
- Loose ground

#### Terrain:

- hard surfaces
- soft surfaces
- uneven surfaces
- slopes

#### Efficiency factors:

- transmission speed setting
- hydraulics

## Prepare and operate a base machine with attachments

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- tyre pressure
- counter balance
- ballasting
- engine revs

### Protection structures:

- Operator Protective Structures (OPS)
- Roll Over Protective Structures (ROPS)
- Falling Object Protective Structures (FOPS)

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