



Glass Training Ltd

**Glass Operations (Automotive Glazing)
Level 3**

Final Version

August 2003

CONTENTS

Unit 1	Promote and maintain health and safety within the working environment	1
Element 1.1	Maintain the health and safety of individuals	2
Element 1.2	Minimise injury to individuals and damage to property in an emergency	3
Element 1.3	Promote health and safety in the working environment	4
Unit 2	Improve the work of the organisation	5
Element 2.1	Improve the effective use of resources	6
Element 2.2	Obtain and provide information	7
Element 2.3	Develop and maintain good working relationships	8
Unit 3	Assess the quality of glass-related materials	9
Element 3.1	Identify the characteristics and features of the glass-related materials	10
Element 3.2	Detect a variation in the quality of glass-related materials	11
Element 3.3	Identify the causes of variations in the quality of glass-related materials	12
Unit 4	Diagnose and rectify technical problems	13
Element 4.1	Investigate technical problems	14
Element 4.2	Diagnose the causes of technical problems	15
Element 4.3	Rectify technical problems	16
Unit 5	Plan the use of resources to meet work requirements	17
Element 5.1	Identify the work that needs to be achieved	18
Element 5.2	Utilise resources to achieve work requirements	19
Element 5.3	Monitor the progress of work	20
Unit 6	Shape automotive glass for installation in vehicles	21
Element 6.1	Check the specifications of automotive glass	22
Element 6.2	Shape automotive glass for vehicles	23
Unit 7	Install automotive glazing components in vehicles with complex requirements	24
Element 7.1	Prepare for the installation of automotive glazing components	25
Element 7.2	Install automotive glazing components	26
Unit 8	Develop new work procedures	27
Element 8.1	Assess the requirements of the work	28
Element 8.2	Specify new work procedures to meet requirements	29
Unit 9	Install fixed automotive glazing components in vehicles	30
Element 9.1	Prepare for the installation of fixed automotive glazing components	31
Element 9.2	Install fixed automotive glazing components	32
Unit 10	Install opening automotive glazing components in vehicles	33
Element 10.1	Prepare for the installation of opening automotive glazing components	34
Element 10.2	Install opening automotive glazing components	35
Unit 11	Repair damaged windscreen glass in vehicles	36
Element 11.1	Determine the feasibility of repair to windscreen glass	37
Element 11.2	Repair windscreen glass	38

Glass Operations Level 3 (Automotive Glazing)

Introduction to the Qualification

Who is this qualification for?

This qualification route is part of an overall Level 3 qualification aimed at the glass industry. This qualification route is aimed at those who work in the replacement automotive glazing industry. It covers the most important aspects of the job of those who replace glazing components in motor vehicles. This qualification is at Level 3, and should be taken by those who are experienced automotive glaziers, capable of dealing with a wide range of problems, including working with vehicles that have complex problems. Candidates will often take a technical supervisory role, particularly in relation to less-experienced automotive glaziers. They will also work closely with customers and have well-developed customer service skills.

A further qualification for Automotive Glazing at Level 2 is also available.

Candidates for this qualification will primarily be:

- working at the road side or in fixed sites
- working with standard production vehicles (ie those produced by mass-market manufacturers in the last 10 years) and vehicles that will have more complex problems (eg older vehicles, more expensive and rarer vehicles, and vehicles where parts are hard to obtain or where methods of repair are not commonly used)
- replacing windscreen glass

- repairing and installing other standard automotive glazing components

Candidates are likely to have jobs entitled:

- Automotive Glazier
- Automotive Technician
- Fitter
- Supervisor
- Team leader

What is required from candidates?

Candidates should achieve all 5 mandatory units listed below, plus 4 of the optional units (2 from each group). Candidates should prove that they can achieve all the statements listed for each element. Guidance on the evidence that will be acceptable is contained in the introduction to each unit.

Mandatory Units (all 5 units to be taken)

Unit 1 Promote and maintain health and safety within the working environment

Unit 2 Improve the work of the organisation

Unit 3 Assess the quality of glass-related materials

Unit 4 Diagnose and rectify technical problems

Unit 5 Plan the use of resources to meet work requirements

Optional Units (any 2 units from Group 1, plus any 2 units from Group 2)

Group 1

Unit 6 Shape automotive glass for installation in vehicles

Unit 7 Install automotive glazing components in vehicles with complex requirements

Unit 8 Develop new work procedures

Group 2

Unit 9 Install fixed automotive glazing components in vehicles

Unit 10 Install opening automotive glazing components in vehicles

Unit 11 Repair damaged windscreen glass in vehicles

Unit 1

Promote and maintain health and safety within the working environment

Commentary

This unit covers the need to not only meet the broad requirements of health and safety, but also ensure that other people also meet them. The first element deals with mainly preventative activities. It covers the need to follow health and safety guidelines and ensuring the work area is free from hazards. The second element deals with coping in an emergency. The candidate is expected to ensure that medical assistance is summoned, and that the emergency services are called where necessary. The third element is concerned with promoting health and safety in the workplace to other colleagues and visitors, trying to ensure they also comply with all relevant requirements. It is also important that developments in health and safety regulations are monitored and promoted.

Unit 1 Promote and maintain health and safety within the working environment

Element 1.1 Maintain the health and safety of individuals

What you should be able to do:

- a) Follow the regulations and guidelines for health and safety protection at all times
- b) Ensure the immediate work area is free from health and safety hazards
- c) Identify promptly any health and safety hazards and report them to an appropriate authority
- d) Take suitable action to prevent harm to individuals
- e) Adopt safe working practices
- f) Use safety equipment and personal protective equipment correctly
- g) Follow manufacturers' and other relevant instructions relating to the safe use of equipment and materials
- h) Inform visitors to the work area of health and safety procedures
- i) Prevent unauthorised access to hazardous areas

What you should know:

Health and safety

- 1. *What are the relevant health and safety regulations and guidelines*
- 2. *What health and safety hazards can be found in the workplace*
- 3. *Who should be informed of health and safety hazards*
- 4. *What are safe and unsafe working practices*
- 5. *What type of safety equipment and personal protective equipment should be used in different situations*

Equipment

- 6. *Where to obtain information on the safe use of equipment*

Visitors

- 7. *What are the health and safety procedures for visitors*
- 8. *Who is authorised to enter hazardous areas*

Unit 1 **Promote and maintain health and safety within the working environment**

Element 1.2 **Minimise injury to individuals and damage to property in an emergency**

What you should be able to do:

- a) Summon medical assistance in the event of any injury or potential injury to others
- b) Give priority to the prevention of injury to people over damage to property
- c) Carry out emergency procedures according to standard operating procedures
- d) Alert the appropriate emergency services and provide them with the information that they require
- e) Ensure emergency equipment is applied by trained personnel wherever possible
- f) Prevent unauthorised access to dangerous areas
- g) Report clearly accidents and emergencies in the appropriate information systems

What you should know:

Health and safety

- 1. *What type of injuries could occur*
- 2. *How to summon medical assistance*
- 3. *Who are the qualified first-aiders that are available*
- 4. *What are the standard operating procedures for different types of emergency*
- 5. *How to alert the emergency services, and what type of information will need to be provided*
- 6. *What are the evacuation procedures for workers and visitors, and where should people gather*
- 7. *Who is authorised to enter dangerous areas*
- 8. *What are the accident reporting procedures*

Emergency equipment

- 9. *Which equipment should be used for different types of emergency*
- 10. *Who is authorised to use emergency equipment*

Information systems

- 11. *What information systems should be used*
- 12. *Why it is important to use the information systems*

Unit 1 Promote and maintain health and safety within the working environment

Element 1.3 Promote health and safety in the working environment

What you should be able to do:

- a) Monitor organisational changes in health and safety regulations and guidelines and implement their requirements as soon as possible
- b) Monitor colleagues to ensure they comply with health and safety requirements
- c) Ensure work areas are free from health and safety hazards
- d) Identify potential health and safety hazards and take action to prevent harm to individuals
- e) Ensure safe working practices are adopted by colleagues and visitors
- f) Ensure safety equipment and personal protective equipment are used correctly at all required times and locations
- g) Ensure manufacturers' and other relevant instructions regarding the safe use of equipment and materials are correctly followed
- h) Ensure unauthorised personnel are prevented access to hazardous areas

What you should know:

Health and safety

1. *How to obtain information on changes to relevant health and safety regulations and guidelines*
2. *How to monitor colleagues complying with health and safety requirements*
3. *What are the duties of employers and employees in relation to health and safety*
4. *How to identify different types of health and safety hazards*
5. *What actions should be taken when health and safety hazards are identified*
6. *What health surveillance procedures are available, and where to obtain information and training on them*
7. *Which work areas contain hazardous activities*

Unit 2

Improve the work of the organisation

Commentary

This unit covers the need to get beyond the immediate requirements of the job, and to view work as more than just utilising technical skills. The candidate should not only try to improve the work of the organisation, but should also encourage others to do so. The first element covers the need to keep costs down by using resources effectively, and this means ensuring all those that undertake the work also try to do this. It is important that equipment is used economically, that components are not damaged, and that materials are used in the correct quantities. Surplus materials are retained wherever possible. The second element is concerned with obtaining and providing information to ensure that all the information required to undertake the work correctly is available. It also covers the need to provide information to colleagues to ensure they are fully informed of the work that is being undertaken. Finally, the third element concerns the need to develop and maintain good working relationships within the organisation, especially with colleagues, but also importantly with customers.

Unit 2 Improve the work of the organisation

Element 2.1 Improve the effective use of resources

What you should be able to do:

- a) Ensure health and safety procedures are complied with at all times
- b) Ensure products and materials are transported carefully to avoid unnecessary damage
- c) Ensure suitable quantities of materials are used during work activities
- d) Ensure surplus materials are salvaged for further processing wherever possible
- e) Ensure equipment is used efficiently and carefully in accordance with standard operating procedures and manufacturers' instructions
- f) Ensure equipment is maintained according to standard operating procedures
- g) Minimise expenditure on non-essential items wherever this does not affect quality
- h) Ensure the people undertaking work activities are competent to do so
- i) Identify and pass on potential improvements to work activities to the appropriate people

What you should know:

Health and safety

- 1. *What are the relevant health and safety responsibilities and obligations*
- 2. *What are the relevant health and safety procedures that need to be followed*

Materials

- 3. *How different types of material should be transported and stored*
- 4. *What quantity of materials should be used for different work activities*
- 5. *What materials can be salvaged, and how are they salvaged*

Equipment

- 6. *What equipment to use for different work activities*
- 7. *How to operate different types of equipment*
- 8. *How to avoid damaging equipment through incorrect use*
- 9. *What are the maintenance requirements of different types of equipment*

Standard operating procedures

- 10. *What are the standard operating procedures for different activities*
- 11. *How to obtain information on the standard operating procedures*

Unit 2 Improve the work of the organisation

Element 2.2 Obtain and provide information

What you should be able to do:

- a) Identify the most appropriate sources of information
- b) Record information in the appropriate information systems
- c) Provide information to colleagues as soon as possible after they have requested it
- d) Ensure information provided to colleagues is accurate and contains sufficient detail to meet their requirements
- e) Provide information in a way that is appropriate to the person requesting it
- f) Identify any problems relating to the exchange of information and deal with them according to standard operating procedures
- g) Exchange information according to standard operating procedures

What you should know:

Information systems

1. *What information systems should be used*
2. *What are the most appropriate sources for different types of information*
3. *What are the procedures for exchanging different types of information*
4. *What are the consequences of exchanging inaccurate or incomplete information*

Standard operating procedures

5. *What are the standard operating procedures for different activities*
6. *How to obtain information on the standard operating procedures*

Problems

7. *What are the types of problems that could occur*
8. *How can different types of problem be resolved*

Unit 2 Improve the work of the organisation

Element 2.3 Develop and maintain good working relationships

What you should be able to do:

- a) Treat people in a way that maintains good working relationships
- b) Bring to the attention of colleagues information that might have an immediate effect on their work
- c) Carry out requests from colleagues promptly without holding up the course of the work
- d) Refer requests that cannot be met to an appropriate person
- e) Make available to others the resources that are required to achieve work activities
- f) Treat people's property with care and respect, and comply with security procedures wherever necessary
- g) Restrict any adverse impact of own work on other people
- h) Report problems in working relationships that cannot be resolved to an appropriate authority as soon as possible

What you should know:

Working relationships

1. *Why it is important to develop good working relationships with colleagues and customers*
2. *What are the security procedures for dealing with property*
3. *Who should be informed of problems in working relationships*
4. *What are the grievance and disciplinary procedures that are available*

Unit 3

Assess the quality of glass-related materials

Commentary

This unit is concerned with being able to make an assessment of the quality of glass-related materials, ie those materials that are either glass or are associated with their use, eg glass supporting systems. Candidates need to be able to identify the main characteristics of the glass-related materials that they work with, and to ensure that the materials match the specifications required by the work being undertaken. They need to be able to detect any obvious variations, eg defects in the manufacture of the materials that could adversely affect the work. They also need to be able to identify the most likely causes of these variations, and make recommendations to correct them to the appropriate people.

Unit 3 Assess the quality of glass-related materials

Element 3.1 Identify the characteristics and features of the glass-related materials

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Assess the glass-related materials using appropriate equipment and methods
- c) Ensure the equipment used to assess quality is functioning correctly
- d) Identify the main characteristics and features of the glass-related materials
- e) Check that the glass-related materials accord with the information on them
- f) Report any discrepancies to the appropriate people according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *What quantity of glass-related materials should be used for different work activities*
4. *What type of glass-related materials are required for different jobs*
5. *How to confirm the specification of glass-related materials*
6. *What type of problems can occur with the glass-related materials, and what are the standard operating procedures for dealing with them*

Equipment

7. *What equipment to use for different work activities*
8. *How to operate different types of equipment*
9. *How different types of equipment can be set up for different requirements*

Information systems

10. *What information systems should be used*
11. *Why it is important to use the information systems*

Unit 3 Assess the quality of glass-related materials

Element 3.2 Detect a variation in the quality of glass-related materials

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Obtain the correct specification for the glass-related materials
- c) Examine the glass-related materials for variations in quality using the correct methods
- d) Ensure the equipment used in the examination process is appropriate
- e) Identify correctly any variation between the quality of the glass-related materials and the specification
- f) Ensure the quality assurance results are recorded correctly in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *How to confirm the specification of glass-related materials*
4. *What types of variation in quality could occur*
5. *What are indications of the variations*

Equipment

6. *What equipment to use for different work activities*
7. *How to operate different types of equipment*
8. *How different types of equipment can be set up for different requirements*

Information systems

9. *What information systems should be used*
10. *Why it is important to use the information systems*

Unit 3 Assess the quality of glass-related materials

Element 3.3 Identify the causes of variations in the quality of glass-related materials

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Access all relevant information on the causes of the variation in glass-related materials
- c) Identify the most likely causes of the variation, and prioritise investigations accordingly
- d) Correctly identify the causes of the variation
- e) Obtain expert assistance when the causes of the variation cannot be identified
- f) Identify suitable solutions for rectifying the causes of the variation
- g) Ensure quality assurance results are recorded correctly in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *What types of variation in quality could occur*
4. *What are indications of the variations*
5. *What are of the most appropriate types of the information for identifying causes of a variation*
6. *What is the likelihood of a variation occurring in different glass-related materials*
7. *What methods can be used for verifying whether the correct cause of a variation has been identified*
8. *When is it appropriate to bring in additional expertise, and what are the consequences on the organisation and the customer*
9. *What types of solution are possible for different quality assurance problems*

Information systems

10. *What information systems should be used*
11. *Why it is important to use the information systems*

Unit 4

Diagnose and rectify technical problems

Commentary

This unit covers the diagnosis and rectification of technical problems, ie those problems that require a high degree of problem solving. Often the location of a technical problem is not immediately apparent, and the candidate will have to investigate the location of the problem and identify its nature. Once the location and nature of the fault is identified, it is necessary to identify what is actually causing it: this might be a component, or faulty materials, or even faulty design. The candidate will then have to work through a number of solutions before determining the right one.

Unit 4 Diagnose and rectify technical problems

Element 4.1 Investigate technical problems

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Select the appropriate action to identify the technical problem
- c) Investigate thoroughly the indications of a technical problem and identify its possible location
- d) Isolate the technical problem to determine its actual location
- e) Seek alternative solutions where technical problems have not been located, and suggest them to the appropriate people
- f) Inform the relevant people of the consequences of technical problems being located in difficult locations
- g) Record information on the identification of the technical problem in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Technical problems

3. *What are the types of technical problem that could occur*
4. *What actions are required to identify different types of technical problem*
5. *What are the likely locations of different technical problems*
6. *What locations are difficult or non-accessible*
7. *When is it advisable to escalate attempts to find a technical problem, and what other actions could be pursued*

Information systems

8. *What information systems should be used*
9. *Why it is important to use the information systems*

Unit 4 Diagnose and rectify technical problems

Element 4.2 Diagnose the causes of technical problems

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Access all relevant information on the technical problem
- c) Investigate thoroughly the technical problem and identify its possible causes using appropriate diagnostic methods
- d) Evaluate the likelihood of each possible cause being responsible for the technical problem, and prioritise work accordingly
- e) Diagnose correctly the causes of the technical problem
- f) Refer the technical problem to expert assistance when the cause cannot be identified
- g) Identify any problems relating to the diagnosis and deal with them according to standard operating procedures
- h) Record information on the diagnosis in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Technical problems

3. *What are the most appropriate diagnostic methods for identifying the causes of technical problems*
4. *What diagnostic methods should be used for different types of technical problems*
5. *What are the possible causes of technical problems*
6. *When is it advisable to escalate attempts to find a technical problem, and what other actions could be pursued*
7. *What type of problems can occur with the diagnostic process, and what are the standard operating procedures for dealing with them*

Information systems

8. *What information systems should be used*
9. *Why it is important to use the information systems*

Unit 4 Diagnose and rectify technical problems

Element 4.3 Rectify technical problems

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Obtain all relevant information on the technical problem
- c) Rectify the technical problem using appropriate equipment, materials, and work procedures
- d) Ensure that the rectification meets all specifications and requirements
- e) Verify that the technical problem has been rectified and monitor it over a suitable period
- f) Identify any problems relating to the rectification work and deal with them according to standard operating procedures
- g) Inform the relevant people that the technical problem has been rectified
- h) Record information on the rectification in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Rectification work

3. *What work has to be done to meet different requirements*
4. *What equipment, materials, and work procedures should be used for different jobs*
5. *How has similar work turned out previously*
6. *What type of problems can occur with the rectification work, and what are the standard operating procedures for dealing with them*

Information systems

7. *What information systems should be used*
8. *Why it is important to use the information systems*

Unit 5

Plan the use of resources to meet work requirements

Commentary

This unit covers the need to plan the use of resources to meet work requirements. The candidate has to identify exactly what is required, and what resources should be used to achieve it. The candidate then has to make sure that all the resources, including people, are used effectively to deliver the work requirements. It is important to monitor how the resources are used, and how the progress of the work is being maintained.

Unit 5 Plan the use of resources to meet work requirements

Element 5.1 Identify the work that needs to be achieved

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Collect all relevant details relating to work requirements
- c) Select the most appropriate option for achieving work requirements
- d) Determine which resources should be used to undertake the work
- e) Obtain information on which resources are available for achieving the work
- f) Inform the relevant people that the resources will be required
- g) Identify any problems relating to the work and deal with them according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Work

3. *What work has to be done to meet different requirements*
4. *What equipment, materials, and work procedures should be used for different jobs*

Resources

5. *What resources are required for different types of work*
6. *What resources are available*

Unit 5 Plan the use of resources to meet work requirements

Element 5.2 Utilise resources to achieve work requirements

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify the work tasks that need to be completed
- c) Select the most appropriate resources for completing each work task
- d) Devise a schedule of work that is achievable within the constraints of the organisation
- e) Provide information on the work schedule to all relevant people
- f) Identify any problems relating to the work and deal with them according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Work

3. *What work has to be done to meet different requirements*
4. *What equipment, materials, and work procedures should be used for different jobs*
5. *How to devise a schedule of work*

Resources

6. *What resources are required for different types of work*
7. *What resources are available*

Standard operating procedures

8. *What are the standard operating procedures for different activities*
9. *How to obtain information on the standard operating procedures*

Problems

10. *What are the types of problems that could occur*
11. *How can different types of problem be resolved*

Unit 5 Plan the use of resources to meet work requirements

Element 5.3 Monitor the progress of work

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Monitor the progress of work against the work schedule
- c) Monitor the use of materials and ensure they meet specifications
- d) Monitor the use of resources in achieving the work requirements
- e) Identify any problems relating to the progress of the work and deal with them according to standard operating procedures
- f) Record information on the progress of the work in the appropriate information system

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Work

3. *What work has to be done to meet different requirements*
4. *What equipment, materials, and work procedures should be used for different jobs*
5. *How to monitor the progress of work*

Resources

6. *What resources are required for different types of work*
7. *What resources are available*
8. *How to monitor the resources that are being used*

Standard operating procedures

9. *What are the standard operating procedures for different activities*
10. *How to obtain information on the standard operating procedures*

Problems

11. *What are the types of problems that could occur*
12. *How can different types of problem be resolved*

Unit 6

Shape automotive glass for installation in vehicles

Commentary

This unit requires the candidate to cut automotive glass, ie laminated safety glass, for installation in vehicles. Vehicles can be cars, light vans, or other commercial vehicles that do not require any special repairs or installations, ie those that are regular day-to-day types of installation. The dimensions of the glass have to be measured so that the correct glass size is cut. In addition, the correct type of glass has to be installed to meet various requirements (eg windscreens and side screens), including health and safety. The glass then has to be cut carefully to ensure it fits into the aperture.

Unit 6 Shape automotive glass for installation in vehicles

Element 6.1 Check the specifications of automotive glass

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify and assess any complex requirements that affect the shaping of the automotive glass
- c) Ensure the measuring equipment is available
- d) Obtain the correct specification for the automotive glass
- e) Measure the automotive glass with the correct equipment
- f) Check that the automotive glass is correct within the specified parameters
- g) Ensure quality assurance requirements are satisfied

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Automotive glass

3. *What type of automotive glass is used for different purposes, and what are their features*
4. *What are the methods for obtaining the correct specification for automotive glass*
5. *What is the correct equipment for measuring different types of automotive glass*

Unit 6 Shape automotive glass for installation in vehicles

Element 6.2 Shape automotive glass for vehicles

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify and prepare a suitable location for shaping the automotive glass
- c) Position the automotive glass correctly for shaping
- d) Shape the automotive glass correctly according to the specification
- e) Monitor the shaping to ensure it achieves the specification
- f) Use the automotive glass effectively to minimise wastage
- g) Identify any problems relating to the shaping and deal with them according to standard operating procedures
- h) Record information on the shaping of the automotive glass in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Automotive glass

3. *What type of automotive glass is used in the organisation, and what are their features*
4. *What are the methods for preparing automotive glass for shaping*
5. *How to handle and position the automotive glass correctly*
6. *What is the correct way of shaping automotive glass for different requirements*

Standard operating procedures

7. *What are the standard operating procedures for different activities*
8. *How to obtain information on the standard operating procedures*

Problems

9. *What are the types of problems that could occur*
10. *How can different types of problem be resolved*

Information systems

11. *What information systems should be used*
12. *Why it is important to use the information systems*

Unit 7 **Install automotive glazing components in vehicles with complex requirements**

Commentary

This unit covers the installation of automotive glazing components in vehicles with complex requirements. The automotive glazing components can be fixed or open components, and could contain complex mechanisms and electrical devices, as well as seals and other fixings. The vehicles can be cars, vans, or other commercial vehicles that are either standard or non-standard production vehicles, but are distinguished by the need to undertake non-routine repairs or installations. For example, the apertures in which the components are installed might vary in their dimensions, or they might be older vehicles that have requirements beyond the ordinary, and these requirements demand the use of more problem-solving skills. The candidate has to prepare the aperture for the work, ie ensure glass and other components are removed, either for disposal or for refitting. The replacement components being installed then have to be positioned and secured within the aperture, using the appropriate materials.

Unit 7 Install automotive glazing components in vehicles with complex requirements

Element 7.1 Prepare for the installation of automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify and assess any complex requirements that affect the installation work
- c) Remove existing materials carefully from the aperture without causing unnecessary damage to the surrounding structures and materials
- d) Store existing materials carefully for re-installation if necessary
- e) Clear all debris and surplus materials from the prepared aperture and dispose of it safely in accordance with standard operating procedures
- f) Identify any problems relating to the installation work and deal with them according to standard operating procedures

What you should know:

Health and safety

- 1. *What are the relevant health and safety responsibilities and obligations*
- 2. *What are the relevant health and safety procedures that need to be followed*

Complex requirements

- 3. *What type of complex requirements could arise*
- 4. *What special methods and equipment might be necessary to deal with complex requirements*

Materials

- 5. *What type of materials should be removed from vehicles*
- 6. *How different types of material should be transported and stored*
- 7. *What are the methods for removing different types of material from the vehicle*
- 8. *What type of debris needs to be removed from vehicles*
- 9. *What action should be taken if dangerous materials are exposed*
- 10. *How to deal with surplus materials*

Standard operating procedures

- 11. *What are the standard operating procedures for different activities*
- 12. *How to obtain information on the standard operating procedures*

Problems

- 13. *What are the types of problems that could occur*
- 14. *How can different types of problem be resolved*

Unit 7 Install automotive glazing components in vehicles with complex requirements

Element 7.2 Install automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Check replacement automotive glazing components to ensure they are not faulty or damaged and that their installation does not restrict the use of other vehicle components
- c) Handle automotive components correctly to minimise damage, waste, and danger
- d) Fit the automotive glazing components correctly and securely according to installation specifications
- e) Apply specified materials correctly to provide a secure and weatherproof installation, and ensure drainage holes are clear
- f) Ensure the operation of automotive components is restored correctly
- g) Minimise the period the vehicle is not operational
- h) Identify any problems relating to the installation work and deal with them according to standard operating procedures
- i) Record information on the installation in the appropriate information systems

What you should know:

Health and safety

- 1. *What are the relevant health and safety responsibilities and obligations*
- 2. *What are the relevant health and safety procedures that need to be followed*

Automotive glazing components

- 3. *What is the typical range and function of automotive glazing components*
- 4. *How to identify damaged or faulty automotive glazing components*
- 5. *How to handle different automotive glazing components*
- 6. *What are the correct methods for fitting different types of automotive glazing component*
- 7. *What types of material should be used to provide a secure and weatherproof installation*
- 8. *What is the minimum amount of time required to complete different installations*

Work

- 9. *What work has to be done to meet different requirements*
- 10. *What restrictions should be imposed on the use of the vehicle after different types of work*

Information systems

- 11. *What information systems should be used*
- 12. *Why it is important to use the information systems*

Unit 8 Develop new work procedures

Commentary

This unit is concerned with developing new work procedures, or modifying existing work procedures, for achieving new work requirements. The candidate has to assess the requirements of the work. When all the factors have been assessed, the candidate should specify a procedure that can be successfully used. This will involve testing the procedure to make sure it works, and then providing sufficient details to others so that they can replicate the procedure later.

Unit 8 Develop new work procedures

Element 8.1 Assess the requirements of the work

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify clearly the purpose of the work
- c) Select the resources that have to be used in the work
- d) Identify any features and characteristics of the work that could affect the work procedures that might be used
- e) Identify any potential problems and their solutions
- f) Obtain information on previous examples of similar work

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Work

3. *What work has to be done to meet different requirements*
4. *What methods or procedures are available for doing the work*

Resources

5. *What resources are required for different types of work*
6. *What resources are available*

Problems

7. *What are the types of problems that could occur*
8. *How can different types of problem be resolved*

Unit 8 Develop new work procedures

Element 8.2 Specify new work procedures to meet requirements

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify potential work procedures for undertaking the work and assess their advantages and disadvantages
- c) Specify clearly the work procedures that are most suitable
- d) Identify clearly the resources required to implement the work and incorporate them into the work procedures
- e) Highlight any special requirements for undertaking the work and confirm them with the appropriate people
- f) Inform all relevant parties of the work procedures and provide them with an appropriate rationale for their introduction
- g) Record information on the new work procedures in the appropriate information systems
- h) Obtain information on the effectiveness of the new work procedures wherever possible

What you should know:

Health and safety

- 1. *What are the relevant health and safety responsibilities and obligations*
- 2. *What are the relevant health and safety procedures that need to be followed*

Work

- 3. *What methods or procedures are available for doing the work*
- 4. *How has similar work turned out previously*
- 5. *How to assess the different work methods or procedures*
- 6. *What type of special requirement might be needed for implementing the work*

Resources

- 7. *What resources are required for different types of work*
- 8. *What resources are available*

Information systems

- 9. *What information systems should be used*
- 10. *Why it is important to use the information systems*

Unit 9

Install fixed automotive glazing components in vehicles

Commentary

This unit covers the installation of fixed automotive glazing components in vehicles. The fixed automotive glazing components can be windscreens, side and back glasses, and any mechanisms or electrical devices related to them. Vehicles can be cars, light vans, or other commercial vehicles that do not require any special repairs or installations, ie those that are regular day-to-day types of installation. The candidate has to prepare the apertures, ensuring glass and other components are removed, either for disposal or for refitting. The replacement components being installed then have to be positioned and secured within the aperture, using the appropriate bonding and sealing materials.

Unit 9 Install fixed automotive glazing components in vehicles

Element 9.1 Prepare for the installation of fixed automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify and assess any requirements that affect the installation work
- c) Remove existing materials carefully from the aperture without causing unnecessary damage to the surrounding structures and materials
- d) Store existing materials carefully for re-installation if necessary
- e) Clear all debris and surplus materials from the prepared aperture and dispose of it safely in accordance with standard operating procedures
- f) Identify any problems relating to the installation work and deal with them according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *What type of materials should be removed from vehicles*
4. *How different types of material should be transported and stored*
5. *What are the methods for removing different types of material from the vehicle*
6. *What type of debris needs to be removed from vehicles*
7. *What action should be taken if dangerous materials are exposed*
8. *How to deal with surplus materials*

Standard operating procedures

9. *What are the standard operating procedures for different activities*
10. *How to obtain information on the standard operating procedures*

Problems

11. *What are the types of problems that could occur*
12. *How can different types of problem be resolved*

Unit 9 Install fixed automotive glazing components in vehicles

Element 9.2 Install fixed automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Check replacement fixed automotive glazing components to ensure they are not faulty or damaged and that their installation does not restrict the use of other vehicle components
- c) Handle automotive components correctly to minimise damage, waste, and danger
- d) Fit the fixed automotive glazing components correctly and securely according to installation specifications
- e) Apply specified materials correctly to provide a secure and weatherproof installation, and ensure drainage holes are clear
- f) Ensure the operation of automotive components is restored correctly
- g) Minimise the period the vehicle is not operational
- h) Identify any problems relating to the installation work and deal with them according to standard operating procedures
- i) Record information on the installation in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Fixed automotive glazing components

3. *What is the typical range and function of fixed automotive glazing components*
4. *How to identify damaged or faulty fixed automotive glazing components*
5. *How to handle different fixed automotive glazing components*
6. *What are the correct methods for fitting different types of fixed automotive glazing component*
7. *What types of material should be used to provide a secure and weatherproof installation*
8. *What is the minimum amount of time required to complete different installations*

Work

9. *What work has to be done to meet different requirements*
10. *What restrictions should be imposed on the use of the vehicle after different types of work*

Information systems

11. *What information systems should be used*
12. *Why it is important to use the information systems*

Unit 10

Install opening automotive glazing components in vehicles

Commentary

This unit covers the installation of opening automotive glazing components in vehicles. The opening automotive glazing components are those that clearly open, and as such have mechanisms and electrical devices, as well as seals and other fixings. Vehicles can be cars, light vans, or other commercial vehicles that do not require any special repairs or installations, ie those that are regular day-to-day types of installation. The candidate has to prepare the aperture for the work, ie ensure glass and other components are removed, either for disposal or for refitting. The replacement components being installed then have to be positioned and secured within the aperture, using the appropriate materials.

Unit 10 Install opening automotive glazing components in vehicles

Element 10.1 Prepare for the installation of opening automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Identify and assess any requirements that affect the installation work
- c) Remove existing materials carefully from the aperture without causing unnecessary damage to the surrounding structures and materials
- d) Store existing materials carefully for re-installation if necessary
- e) Clear all debris and surplus materials from the prepared aperture and dispose of it safely in accordance with standard operating procedures
- f) Identify any problems relating to the installation work and deal with them according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *What type of materials should be removed from vehicles*
4. *How different types of material should be transported and stored*
5. *What are the methods for removing different types of material from the vehicle*
6. *What type of debris needs to be removed from vehicles*
7. *What action should be taken if dangerous materials are exposed*
8. *How to deal with surplus materials*

Standard operating procedures

9. *What are the standard operating procedures for different activities*
10. *How to obtain information on the standard operating procedures*

Problems

11. *What are the types of problems that could occur*
12. *How can different types of problem be resolved*

Unit 10 Install opening automotive glazing components in vehicles

Element 10.2 Install opening automotive glazing components

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Check replacement opening automotive glazing components to ensure they are not faulty or damaged and that their installation does not restrict the use of other vehicle components
- c) Handle automotive components correctly to minimise damage, waste, and danger
- d) Fit the opening automotive glazing components correctly and securely according to installation specifications
- e) Apply specified materials correctly to provide a secure and weatherproof installation, and ensure drainage holes are clear
- f) Ensure the operation of automotive components is restored correctly
- g) Minimise the period the vehicle is not operational
- h) Identify any problems relating to the installation work and deal with them according to standard operating procedures
- i) Record information on the installation in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Opening automotive glazing components

3. *What is the typical range and function of opening automotive glazing components*
4. *How to identify damaged or faulty opening automotive glazing components*
5. *How to handle different opening automotive glazing components*
6. *What are the correct methods for fitting different types of opening automotive glazing component*
7. *What types of material should be used to provide a secure and weatherproof installation*
8. *What is the minimum amount of time required to complete different installations*

Work

9. *What work has to be done to meet different requirements*
10. *What restrictions should be imposed on the use of the vehicle after different types of work*

Information systems

11. *What information systems should be used*
12. *Why it is important to use the information systems*

Unit 11

Repair damaged windscreen glass in vehicles

Commentary

This unit is concerned with repairing damage to windscreen glass in vehicles, which is typically a basic resin repair. The candidate needs to be able to assess whether the repair is feasible, and consider health and safety and other legal requirements. The repair must also be likely to succeed, rather than doing any unnecessary damage. Once the feasibility of the repair is confirmed, it has to be undertaken. The repair must use the right materials, and meet all requirements.

Unit 11 Repair damaged windscreen glass in vehicles

Element 11.1 Determine the feasibility of repair to windscreen glass

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Confirm the type of windscreen damage with the customer
- c) Identify windscreen damage using approved or appropriate methods
- d) Identify correctly the zone in which the damage lies, and determine the feasibility of the work in accordance with standard operating procedures
- e) Inform customers of the appropriate action required to rectify the windscreen damage
- f) Identify any problems relating to the windscreen repair and deal with them according to standard operating procedures

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Windscreen damage

3. *What are the types of windscreen damage that can occur with the vehicle*
4. *What are the approved or appropriate methods for identifying windscreen damage*
5. *Why it is important to identify correctly the zone where the damage lies, and how this affects the feasibility of the work*
6. *What are the types of action that can be taken to rectify windscreen damage*

Customers

7. *What type of information do customers require, and why it could be important to them*

Standard operating procedures

8. *What are the standard operating procedures for different activities*
9. *How to obtain information on the standard operating procedures*

Problems

10. *What are the types of problems that could occur*
11. *How can different types of problem be resolved*

Unit 11 Repair damaged windscreen glass in vehicles

Element 11.2 Repair windscreen glass

What you should be able to do:

- a) Comply with health and safety requirements and procedures at all times
- b) Use materials in the repair that are suitable for their purpose
- c) Ensure the repaired windscreen meets the customer's requirements
- d) Undertake repairs in accordance with standard operating procedures
- e) Minimise the period the vehicle is not operational
- f) Inform customers of further actions that are required when repairs are only temporary
- g) Identify any problems relating to the repair and deal with them according to standard operating procedures
- h) Record information on the repair in the appropriate information systems

What you should know:

Health and safety

1. *What are the relevant health and safety responsibilities and obligations*
2. *What are the relevant health and safety procedures that need to be followed*

Materials

3. *What type of materials are required for different jobs*
4. *How different types of material should be transported and stored*

Work

5. *What work has to be done to meet different requirements*
6. *What restrictions should be imposed on the use of the vehicle after different types of work*

Standard operating procedures

7. *What are the standard operating procedures for different activities*
8. *How to obtain information on the standard operating procedures*

Problems

9. *What are the types of problems that could occur*
10. *How can different types of problem be resolved*

Information systems

11. *What information systems should be used*
12. *Why it is important to use the information systems*

Glass Operations (Automotive Glazing) Level 3
