



National Unit Specification: general information

UNIT Automotive Skills: The Vehicle Modification Project
(SCQF level 4)

CODE F8N0 10

SUMMARY

This Unit is a mandatory Unit of the Skills for Work Automotive Skills Course at SCQF level 4 and can also be taken as a free-standing Unit.

The emphasis of this Unit is on the consolidation of previous practical skills developed. Candidates will select a modification project to carry out on a vehicle. This will enable candidates to put into practice and further develop some of the basic handskills and problem solving abilities that an Automotive Technician requires. Candidates will gain experience and build confidence as they carry out the tasks required to complete the selected modification.

Candidates will have the opportunity to review and develop their own employability skills throughout the Unit.

This Unit is suitable for candidates who have already developed basic automotive technical skills and knowledge.

OUTCOMES

- 1 Produce a plan to modify a vehicle or vehicle system.
- 2 Complete, test and evaluate the modification.
- 3 Review and evaluate own employability skills profile.

Administrative Information

Superclass: XS

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National Unit Specification: general information (cont)

UNIT Automotive: The Vehicle Modification Project

RECOMMENDED ENTRY

While entry is at the discretion of the centre, it would be advantageous for candidates to have attained or be working towards one or more of the following Skills for Work units, or equivalent:

F8MW 10 *Automotive Skills: The Garage*
F8MY 10 *Automotive Skills: The Technician*
F8MX 10 *Automotive Skills: The Car*

CREDIT VALUE

1 credit at SCQF level 4 (6 SCQF credit points at SCQF level 4*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

CORE SKILLS

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit Specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit Specification: statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME 1

Produce a plan to modify a vehicle or vehicle system.

Performance Criteria

- (a) Identify an appropriate range of modifications.
- (b) Select an appropriate modification.
- (c) Identify skills and resources required to carry out the modification.
- (d) Produce a plan which clearly shows the steps to carry out the modification.
- (e) Obtain teacher/lecturer feedback and approval for the plan.

OUTCOME 2

Complete, test and evaluate the modification.

Performance Criteria

- (a) Prepare all the necessary resources correctly.
- (b) Use the appropriate resources effectively.
- (c) Present a completed modification.
- (d) Carry out an appropriate functionality test.
- (e) Evaluate the completed modification.
- (f) Comply with safe working practices while carrying out all activities.

OUTCOME 3

Review and evaluate own employability skills profile.

Performance Criteria

- (a) Identify own strengths and weaknesses.
- (b) Seek and record feedback from teacher/lecturer on own performance.
- (c) Identify action points for improvement in relation to employability skills.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

In this Unit candidates may work individually or as a small group (a maximum of three), depending on the size and complexity of the modification. If the modification is undertaken by a group all candidates must clearly provide the Evidence Requirements.

Performance and product evidence which covers all of the Outcomes and Performance Criteria is required for this Unit.

Outcome 1 — Product evidence

Candidates will be required to produce in open-book conditions, a plan of the selected modification which must include:

- ◆ identification of the component(s), or system to be modified
- ◆ skills and resources required to carry out the modification
- ◆ the steps taken to complete the modification
- ◆ approval to proceed with the modification
- ◆ a record of work and any research carried out by the individual or group members

The plan will be in a format appropriate to the needs of the candidate.

An assessor checklist must be used to support product evidence.

Outcome 2 — Performance evidence

Candidates will be required to demonstrate through practical activity on one occasion that they are able to:

- ◆ prepare equipment and materials to carry out the modification
- ◆ use tools and equipment correctly
- ◆ present a completed modification
- ◆ test the functionality of the modification
- ◆ evaluate the success of the modification
- ◆ comply with safe working practices when carrying out all activities

An assessor observation checklist and a completed candidate report on the modification carried out must be used to provide evidence of performance. The report produced must evaluate the success of the modification.

National Unit Specification: statement of standards

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Outcome 3 — Candidate review

Candidates must identify their own strengths and weaknesses using a self evaluation review record and obtain feedback from their teacher/lecturer in relation to a specified list of employability skills. Candidates must also identify action points for improvement.

A signed record of the review must be retained by the assessor as assessment evidence.

The National Assessment Bank pack provided for this Unit illustrates the standard that should be applied. It includes a modification brief and assessor checklist for Outcome 1, assessor observation checklist for Outcome 2 and a candidate self evaluation review record for Outcome 3. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

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This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

This Unit is designed to enable candidates to put into practice and develop some of the basic handskills and problem solving abilities that an Automotive Technician requires.

Candidates will gain experience and build confidence as they carry out the tasks required to complete the selected project.

During the process of planning and carrying out the practical aspects of the selected project, candidates will become accustomed to working individually and with others. Through sharing resources they will also become aware of the need to work cooperatively.

Candidates will learn good working practice and should quality check their own work when completed. They will also learn and become accustomed to using the correct terminology for components, tools and equipment.

The context for learning must include the requirement for appropriate Personal Protective Equipment (PPE), appropriate conduct, and correct care of tools, chemicals and equipment.

Acceptable examples of modifications could include:

- ◆ Interior lighting system
- ◆ Spoiler with brake light
- ◆ Distance sensor
- ◆ Wiring an auxiliary lighting system
- ◆ Installing an alarm system
- ◆ Lowering suspension
- ◆ Additional air intakes/venting
- ◆ Design and make a wheel trim
- ◆ Installing/upgrading a sound system
- ◆ Rain sensor system
- ◆ Decal design and application

This list of example modifications is not exhaustive. The modification must be approved by the teacher/lecturer prior to commencing work.

National Unit Specification: support notes

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The following list of employability skills and behaviours have been identified by employers in the automotive industry and are an important part of the content of this Unit.

- ◆ positive attitude towards learning:*
 - showing commitment and flexibility
 - showing an interest in the automotive industry
 - showing a willingness to learn
- ◆ good timekeeping and attendance*
- ◆ following instructions
- ◆ awareness of the implications of health and safety requirements*
- ◆ importance of appropriate dress code*
- ◆ good communication skills*
- ◆ preparing and planning for work*
- ◆ awareness of the monetary value of the vehicles being worked on and their importance to the customer
- ◆ ability to work in a team
- ◆ flexible approach to solving problems*
- ◆ adaptability to change
- ◆ understanding the workplace, the job roles and the career paths within it
- ◆ awareness of environmental issues affecting the automotive industry*

Assessment activity for this Unit will clearly identify a number of employability skills (marked with an asterisk*). However there are opportunities throughout this Unit to develop the remaining skills.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

It is important that candidates are provided with advice and guidance on what is expected of them when they are undertaking this Unit. Candidates at this level should get support and feedback from the teacher/lecturer on their progress throughout.

The initial approach for this Outcome will be centred on group discussion during the identification and selection of the modification.

The most likely approach is that more than one group will work on one vehicle therefore resources will need to be shared and groups will need to work co-operatively.

When the modification is selected the candidate must produce a plan to show the steps that need to be taken to achieve completion of the selected modification. An average of 15% of the allocated Unit time should be devoted to the planning stage.

If the centre allocated a budget to each modification project candidates could then work to ensure that all costs were kept within the budget allocated.

During the search for information candidates should be encouraged to record the different sources of information used, eg internet, magazines, specialist books.

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Outcome 2 is the focus of the Unit where candidates will be using their previously developed skills to undertake the modification project. The teacher /lecturer role will therefore be offering support and guidance if/when necessary.

Candidates will use analytical, problem solving and practical/experiential skills to carry out the modification.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

In this Unit candidates will be planning how to carry out a modification and reviewing their progress. Candidates will be encouraged to take responsibility for their own performance and this will give the opportunity to develop aspects of the Core Skill of *Problem Solving*.

Candidates will make use of a number of investigative processes and research methods which will give the opportunity to develop aspects of the Core Skill of *Information and Communication Technology*.

Candidates may undertake the modification as a team. If so, this will give the opportunity to develop aspects of the Core Skill of *Working with Others*.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

The Evidence Requirements are fully expressed in the mandatory section of this Unit Specification.

The evidence required should be gathered in sequence from Outcome 1 to Outcome 3.

If candidates are working as pair or team assessors must satisfy themselves that each candidate is competent in each aspect of the exercise.

Outcomes 1 a) and b) could be assessed by direct observation of the candidate discussing which system or component to select for the project.

Assessment of the functionality test in Outcome 2 will vary depending on the modification carried out but a generic checklist would be the simplest way to assess this.

Outcome 3

When delivering this Unit as part of the Automotive Skills (SCQF level 4) Course, evidence for Outcome 3 of this Unit will give candidates greater opportunity to review their employability skills profile across the duration of the Course.

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Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by information and communications technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

The National Assessment Bank pack provided for this Unit illustrates the standard that should be applied. It includes a modification brief and assessor checklist for Outcome 1, assessor observation checklist for Outcome 2 and a candidate self evaluation review record for Outcome 3. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements