



Curriculum
Council

AUTOMOTIVE WORKSHOP

(Year 12 E289)

Common Assessment Tasks

Index of Common Assessment Tasks Booklet

Automotive Workshop (Year 12) – E289

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Guidelines for the Common Assessment Tasks

Automotive Workshop (Year 12) – E289

This package contains the requirements for the four Common Assessment Tasks in Year 12 Automotive Workshop. The specific content of each task is to be determined by the school provider dependent upon the mode of delivery by the teacher.

Each task description is presented with the following headings:

1. Outcomes

The teacher has the flexibility to select from the Automotive Workshop outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

2. Task

The task to be completed.

3. Task Description

The Task Description outlines what requirements are necessary for the students to complete the task. In most cases, it provides guidelines for the teacher to ensure that the major focus of the task has been understood.

4. Task Parameters

The Task Parameters determine the context and conditions in which the task is to be carried out.

5. Authentication

This section relates to the requirements of the student and the teacher in ensuring the task has been completed by the student. It is important that the teacher is able to authenticate all work completed for assessment by the student.

6. Performance Criteria

Each outcome is assessed against the Performance Criteria to determine the level of student achievement.

Record of Performance

Automotive Workshop (Year 12) – E289

Student:

| OUTCOME | Task 1 | Task 2 | Task 3 | Task 4 | FINAL |
|---|--------|--------|--------|--------|-------|
| Outcome 1: Applies the technology process to solve automotive design problems. | | | | | |
| Outcome 2: Describes and applies routines for care and maintenance of vehicles. | | | | | |
| Outcome 3: Describes and applies relevant technologies in the automotive industry. | | | | | |
| Outcome 4: Applies skills and techniques using a variety of automotive hand and power tools, workshop equipment, sealant and adhesives. | | | | | |
| Outcome 5: Analyses the parts and principles of operation of internal combustion engines and the associated systems. | | | | | |
| Outcome 6: Applies skills and techniques in working with a variety of automotive systems. | | | | | |
| Outcome 7: Applies automotive skills and techniques with a range of components, bearings and seals. | | | | | |
| FINAL GRADE | | | | | |

Task 1:

Maintenance

Curriculum Council requirements for this task are outlined below. Evidence must be provided to demonstrate student achievement of each of the selected outcomes.

Outcomes

The teacher has the flexibility to select from the Automotive Workshop outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

Task

The students complete a range of practical exercises in automotive care and maintenance, and demonstrate knowledge of automotive techniques and processes.

Task Description

The task requires that the student demonstrate the following work through an appropriate medium.

1. Carry out periodic inspection including:
 - daily checks on belts and pulleys
 - weekly checks on bearings and seals
 - brake and transmission fluid levels
 - oil - check sump dipstick, also service sticker re oil change date and/or kilometres
 - check water levels in radiator and windscreen wiper bottle, check hoses for wear
 - check electrolyte level in battery, terminals for cleanliness and tightness, battery filler cap vent holes
 - check lights and electrical including indicators, headlamps and brake lights.
 - check tyre pressure and wear and carry out service rotation according to particular manual
2. Carry out routine maintenance on vehicles and engines including:
 - changing oil and filters
 - changing spark plugs
 - adjust timing and replacing points where required and according to manual specifications
 - changing leads where required
 - replacing broken or blown gaskets, seals and core plugs
 - packing and adjusting bearings
 - removing and replacing components
 - adjusting and fitting body parts.

Task Parameters

Students should be given every opportunity to complete maintenance as an integrated part of a larger project such as a vehicle or engine. The task may be completed over the year on several vehicles and motors. Motor rebuild work can contribute to this task as can set maintenance exercises. The students must be provided with opportunities to demonstrate their individual achievement of the task. All work carried out as part of the subject must be supervised and checked by a qualified instructor and comply with the current police licensing laws. All maintenance work should be completed following the specifications in the relevant manufacturers manual and using the correct tools and equipment.

Authentication

The following authentication procedures will apply:

- the teacher is to monitor the development of the task
- the student's work will be assessed only if the teacher can attest that the work is the student's own work.

Performance Criteria

Each outcome is assessed against the Performance Criteria to determine the level of student achievement.

Task 2:

Engines

Curriculum Council requirements for this task are outlined below. Evidence must be provided to demonstrate student achievement of each of the selected outcomes.

Outcomes

The teacher has the flexibility to select from the Automotive Workshop outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

Task

Students complete a range of practical exercises in engine troubleshooting, repair and servicing, and demonstrate knowledge of internal combustion engine operation and applications.

Task Description

The task requires that the student demonstrate the following work through an appropriate medium.

1. Demonstrate a knowledge of:

- internal combustion engines and their operation - four stroke and rotary engines
- cross flow, overhead cam, injection and turbo engines
- engine components and parts - cylinder, head, piston, ring, connecting rod, block etc
- fuels and the combustion process
- lubricants and the role they play including wear, loading and stress factors

2. The student should demonstrate the following;

- removal and replacement of engine components including head, sump, crank shaft, cam shaft, pistons, rockers and timing chain or belt
- adjustment to belts and timing
- appropriate use of tools and equipment for the correct application
- adherence to procedures for work on engines as described in the appropriate manufacturers workshop manual.

Task Parameters

The teacher will provide the students with rules and safety guidelines to ensure Worksafe practices and procedures are adhered to. The students learning and demonstration of the skills and acquired knowledge should be integrated. The students will need to be provided with opportunities to place the knowledge in the context of the practical application.

The teacher will facilitate the study by delivering appropriate lessons on:

- the theory of engines, by breaking down engines into various categories, components, parts or groups and discussing input, process and outputs
- the possible range of faults which could or do occur in the engine
- scientific or mechanical principles, calculations and measurement
- techniques, procedures and correct use of testing and measuring devices

Authentication

The following authentication procedures will apply:

- the teacher is to implement and monitor the development of the task
- the student's work will be assessed only if the teacher can attest that the work is the student's own work.

Performance Criteria

Each outcome is assessed against the Performance Criteria to determine the level of student achievement.

Task 3:

Systems

Curriculum Council requirements for this task are outlined below. Evidence must be provided to demonstrate student achievement of each of the selected outcomes.

Outcomes

The teacher has the flexibility to select from the Automotive Workshop outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

Task

Students will complete a range of practical exercises in systems troubleshooting, repair and servicing and demonstrate a knowledge of motor vehicle systems and their integration.

Task Description

The task requires that the student demonstrate the following work through an appropriate medium.

1. Demonstrate a knowledge of:
 - motor vehicle systems and their integration and dependence on each other
 - sub systems including - fuel, cooling, electrical, lubrication, braking, suspension and emission
 - system troubleshooting and fault finding
 - system adjustments and maintenance
2. The student should demonstrate the following:
 - removal and replacement of system components
 - adjustment to systems
 - appropriate use of tools and equipment for the correct application
 - adherence to procedures for work on systems as described in the appropriate workshop manuals.

Task Parameters

The teacher will provide the students with rules and safety guidelines to ensure Worksafe practices and procedures are adhered to. The students learning and demonstration of the skills and acquired knowledge should be integrated. The students will need to be provided with opportunities to place the knowledge in the context of the practical application. All work completed must be under qualified instructor supervision and comply with all current police licensing requirements and manufacturers workshop manual specifications.

The teacher will facilitate the study by delivering appropriate lessons on:

- the possible range of faults which could or do occur in automotive systems
- scientific or mechanical principles, calculations and measurement
- techniques, procedures and correct use of testing and measuring devices
- adjustment and calibration of equipment following manufacturer specifications.

Authentication

The following authentication procedures will apply:

- the teacher is to implement and monitor the development of the task
- the student's work will be assessed only if the teacher can attest that the work is the student's own work.

Performance Criteria

Each outcome is assessed against the Performance Criteria to determine the level of student achievement.

Task 4:

Personal Project

Curriculum Council requirements for this task are outlined below. Evidence must be provided to demonstrate student achievement of each of the selected outcomes.

Outcomes

The teacher has the flexibility to select from the Automotive Workshop outcomes those to be assessed in each task. On completion of the subject the student must have been provided with at least two opportunities to demonstrate achievement of each outcome.

Task

Students will manufacture, construct or repair a personal project, using appropriate automotive skills or techniques.

Task Description

The task requires that the student identifies a particular area of interest and applies the technology process to address the particular problem or need associated with this task. The student will undertake an activity which involves some or many of the automotive skills, knowledge and processes gained to this point.

Students may undertake any of the following examples:

- major repair or overhaul of an engine including major bearings, rings and fitting
- repair or replacement of panel work on a car body including welding and reshaping of body parts
- panel beating or spray painting repairs including spray putty and refinishing with lacquer or enamel finishes
- engine sub system repairs including fuel, electrical, suspension, steering and brakes
- manufacture associated equipment or tools including axle stands, car ramps or jigs or pullers
- repairs or maintenance of specific agricultural equipment such as headers or trailers.

Task Parameters

The teacher will provide the students with rules and safety guidelines to ensure Worksafe practices and procedures are adhered to. The students learning and demonstration of the skills and acquired knowledge should be integrated. The students will need to be provided with opportunities to place the knowledge in the context of the practical application. The repairs or rebuilds completed by the students must be supervised by a qualified instructor and in no way contravene or compromise current police licensing or road safety rules. Work associated with sub systems such as brakes and suspension must only be completed under experienced qualified supervision and the instructor must ensure all laws and rules are complied with.

Authentication

The following authentication procedures will apply:

- the teacher is to monitor the development of the task
- the student's work will be assessed only if the teacher can attest that the work is the student's own work.

Group work in this course:

- group work may be undertaken in all aspects of the tasks with the teacher monitoring progress and individual contributions
- each member of the group must provide specific details of their individual work efforts

Performance Criteria

Each outcome is assessed against the Performance Criteria to determine the level of student achievement.

GRADING COMBINATIONS

Automotive Workshop (Year 12) - E289

| V | H | S | ND | GRADE |
|---|---|---|----|-------|
| 7 | 0 | 0 | 0 | A |
| 6 | 1 | 0 | 0 | A |
| 6 | 0 | 1 | 0 | A |
| 5 | 2 | 0 | 0 | A |
| 5 | 1 | 1 | 0 | A |
| 5 | 0 | 2 | 0 | A |
| 4 | 3 | 0 | 0 | A |
| 4 | 2 | 1 | 0 | A |

| V | H | S | ND | GRADE |
|---|---|---|----|-------|
| 2 | 2 | 3 | 0 | B |
| 1 | 6 | 0 | 0 | B |
| 1 | 5 | 1 | 0 | B |
| 1 | 4 | 2 | 0 | B |
| 1 | 3 | 3 | 0 | B |
| 0 | 7 | 0 | 0 | B |
| 0 | 6 | 1 | 0 | B |
| 0 | 5 | 2 | 0 | B |
| 0 | 4 | 3 | 0 | B |

| | | | | |
|---|---|---|---|---|
| 5 | 0 | 2 | 0 | B |
| 4 | 1 | 2 | 0 | B |
| 4 | 0 | 3 | 0 | B |
| 3 | 4 | 0 | 0 | B |
| 3 | 3 | 1 | 0 | B |
| 3 | 2 | 1 | 0 | B |
| 3 | 1 | 3 | 0 | B |
| 2 | 5 | 0 | 0 | B |
| 2 | 4 | 1 | 0 | B |
| 2 | 3 | 2 | 0 | B |

| | | | | |
|---|---|---|---|---|
| 2 | 1 | 4 | 0 | C |
| 2 | 0 | 5 | 0 | C |
| 1 | 2 | 4 | 0 | C |
| 1 | 1 | 5 | 0 | C |
| 1 | 0 | 6 | 0 | C |
| 0 | 3 | 4 | 0 | C |
| 0 | 2 | 5 | 0 | C |
| 0 | 1 | 6 | 0 | C |
| 0 | 0 | 7 | 0 | C |

NOTE: A FINAL RATING OF "ND" FOR ANY OUTCOME WILL RESULT IN A GRADE OF "D" BEING AWARDED. WHERE THERE ARE MORE THAN 50% OF OUTCOMES WITH A FINAL RATING OF "ND" AN "E" GRADE IS AWARDED.