Practice Marking Materials for Technical Qualifications

2019

City & Guilds

0171-28 Level 2 Technical Certificate in Land based Engineering

Introduction

The synoptic assignments for the City & Guilds Technical Qualifications are externally set summative assessments which are internally marked by tutors. It is the centre's responsibility to ensure candidates' work is marked in a standard way across the centre, using the specified marking grid, in order to rank performance on a single mark scale.

Practise marking materials are useful to support centre staff with internal standardisation and as a pre-standardisation activity. The materials are produced to support staff in the process of marking including how to effectively use marking grids and assessment objectives (AO).

The marking materials must be considered alongside the Technical qualifications Marking and Moderation Guide

It is recommended that all tutors, including any unlikely to mark, are included in early discussions around the use of the marking grid, as all tutors should understand the basis of marking as it could shape their teaching by helping candidates practise bringing their skills and knowledge together to complete a problem, and helping them learn how to explain and justify their choices in terms of the subject knowledge in preparation for summative assessment. Tutors must study the *Marking and Moderation Guide:* *https://www.cityandguilds.com/techbac/technical-qualifications/resources-and-support* which provides detailed information about generic assessment objectives, and the marking grid, to ensure they are clear about the different AOs and how they may show up in evidence for assignments in the subject area. If there is more than one tutor carrying out marking at the centre, this process should be carried out as part of a group activity to ensure all markers are clear and in agreement about what sorts of evidence are relevant for assessment and which AO they fit into.

The following materials could form the basis for pre-standardisation practice and discussion could take place using evidence from trial runs/formative assessment activities. Standardisation should also take place using the evidence from the actual assignment set for that year, so along with utilising this tool, please ensure that activities surrounding the 2019 assignment also take place.

Within this pack, you will find

- a sample task brief
- a copy of the marking grid used for the synoptic assessment
- a sample of materials responding to either last year's synoptic assignment or a sample set of tasks. This includes learner produced evidence and tutor observations of the practical performance.

And finally, the Principal Moderator has provided a breakdown of the marks for the different assessment objectives along with general hints and tips on the synoptic assessment.

Assignment Brief

A customer has called the dealership, where you work as an agricultural technician, to request an annual service for their tractor. However, due to the busy time of year the customer has asked that the annual service be completed in one of the workshops on their farm to help reduce the tractor's down time. All tasks are to be completed in a safe, efficient and timely manner.

In addition, it has been reported that the tractor has a battery charging problem due to a failed alternator. Therefore, the customer wishes to order a replacement alternator to be fitted at the same time as the service.

It is important that all service and maintenance activities are completed in accordance with the manufacturer's instructions at all times.

Tasks

Task 1

List and prepare tools, equipment, and all materials required for the annual service and replacement component, in accordance with manufacturer's instructions.

Conditions of assessment:

You must carry out the task on your own, under supervised conditions.

If you are working in a way that risks the safety of yourself or others, you will be stopped. If your tutor decides that it is unsafe for you to continue working, you will be asked to leave the assessment area.

What you must produce for marking:

- List of tools, equipment and material requirements.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes of your working practice detailed in task 1.

Task 2

You have arrived at the customer's workshop. Conduct a thorough risk assessment of the workshop, annual service and component replacement tasks.

Conditions of assessment:

You must carry out the task on your own, under supervised conditions.

If you are working in a way that risks the safety of yourself or others, you will be stopped. If your tutor decides that it is unsafe for you to continue working, you will be asked to leave the assessment area.

What you must produce for marking:

- A written risk assessment.

Task 3

Conduct an annual service of the tractor in accordance with the manufacturer's instructions. During the task, you must complete a service schedule.

Conditions of assessment:

You must carry out the task on your own, under supervised conditions.

If you are working in a way that risks the safety of yourself or others, you will be stopped. If your tutor decides that it is unsafe for you to continue working, you will be asked to leave the assessment area.

What you must produce for marking:

- A service schedule.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes of your working practice detailed in task 3.
- Photographs/video evidence.

Task 4

Remove, refit and test the replacement alternator in accordance with manufacturer's instructions.

You must make a written note of all alternator test results.

Conditions of assessment:

You must carry out the task on your own, under supervised conditions.

If you are working in a way that risks the safety of yourself or others, you will be stopped. If your tutor decides that it is unsafe for you to continue working, you will be asked to leave the assessment area.

What you must produce for marking:

- Written notes.

Additional evidence of your performance that must be captured for marking:

- Your tutor's notes of your working practice detailed in task 4.
- Photographs/video evidence.

Section 2 Marking Grid

Marking grid

For any category, 0 marks may be awarded where there is no evidence of achievement

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO1 Recall of knowledge relating to the qualification LOs • Does the candidate seem to have the full breadth and depth of taught knowledge across the qualification to hand? • How accurate it their knowledge? Are there any gaps or misunderstandings evident? • How confident and secure does their knowledge seem?	(1-4 marks) Recall shows some weaknesses in breadth and/or accuracy. Hesitant, gaps, inaccuracy.	(5-8 marks) Recall is generally accurate and shows reasonable breadth. Inaccuracy and misunderstandings are infrequent and usually minor. Sound, minimal gaps.	(9-12 marks) Consistently strong evidence of accurate and confident recall from the breadth of knowledge. Accurate, confident, complete, fluent, slick.
		Examples of types of knowledge expected: Legislation and regulations, health and safety, how to access technical data, technical terminology, workshop processes, land-based machinery and equipment component location, identification and functionality, routine service actions, use maintenance and storage tools, equipment and hardware relevant to repairs and maintenance, knowledge of power units, transmissions, hydraulics, electrics – units of measurement and components, engine uses and types, documentation types, applications for engines.		
		The candidate gives limited examples from across the range of knowledge. Basic recall of facts offered. Limited use of technical terminology. Little reference to legislation (including health and safety).	The candidate gives examples which are wide ranging and detailed in some areas. Recall of facts is broadly complete. Technical terminology is regularly used with some gaps. Some examples of legislation referred to.	The candidate gives a wide range of accurate examples from across the range of the qualification content. Excellent recall of relevant facts are offered confidently. Extensive, accurate use of terminology used to demonstrate breadth of knowledge. Legislation referred to correctly and accurately throughout.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO2 Understanding of concepts theories and processes relating to the LOs • Does the candidate make connections and show causal links and explain why? • How well theories and concepts are applied to new situations/the assignment? • How well chosen are exemplars – how well do they illustrate the concept?	(1-4 marks) Some evidence of being able to give explanations of concepts and theories. Explanations appear to be recalled, simplistic or incomplete. Misunderstanding, illogical connections, guessing.	(5-8 marks) Explanations are logical. Showing comprehension and generally free from misunderstanding, but may lack depth or connections are incompletely explored. Logical, slightly disjointed, plausible.	(9-12 marks) Consistently strong evidence of clear causal links in explanations generated by the candidate. Candidate uses concepts and theories confidently in explaining decisions taken and application to new situations. Logical reasoning, thoughtful decisions, causal links, justified.
		Examples of understanding expected: Health and safety implications, workplace risks assessments, servicing procedures and safety requirements, good working practices, understanding of machinery and equipment systems and the function of their components - including engines, hydraulics, transmissions and electrics. Procedures for moving, storing and cleaning machinery and equipment. Importance of professional development and personal behaviours, workshop housekeeping principles and implications, procedures for dismantling, inspecting and reinstating systems, material properties and uses, cutting , shaping and joining processes.		

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
		Bottom of band: Very limited understanding of workplace safety, risk assessments and materials not always used, handled or disposed of in the safest manner. Very few elements of service activities and safety checks understood. Shows little awareness of good working practices and unable to explain the points requested. Top of band: A basic understanding of workplace safety and risk assessments but materials not used, handled or disposed of in the safest manner. Shows some understanding of the elements of service activities and safety checks.	Bottom of band: There is a compliance with workplace safety, risk assessments and an awareness of correct handling and disposal procedures. Shows a basic knowledge of the requirements for servicing and safety checks. Shows an awareness of good working practices but unable to explain several of the points requested. Top of band: There is a broad compliance with workplace safety and risk assessments and an awareness of correct handling and disposal procedures. Shows a broad knowledge of the requirements for servicing and safety checks.	Bottom of band: Full compliance with safety, risk assessments in the majority of situations and shows a good understanding of the correct handling and disposal, but on occasion unsure. Good understanding of service activities but unsure of some of the correct procedures. Good understanding of good working practices but does not show a full understanding of every point requested. Top of band: Full compliance with safety and risk assessments. Materials are consistently used, handled and disposed of correctly. Full understanding of service activities

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
30	AO3 Application of practical/ technical skills • How practiced/fluid does hand eye coordination and dexterity seem? • How confidently does the candidate use the breadth of practical skills open to them? • How accurately/ successfully has the candidate been able to use skills/achieve practical outcomes?	(1-6 marks) Some evidence of familiarity with practical skills. Some awkwardness in implementation, may show frustration out of inability rather than lack of care. Unable to adapt, frustrated, flaws, out of tolerance, imperfect, clumsy.	(7-12 marks) Generally successful application of skills, although areas of complexity may present a challenge. Skills are not yet second nature. Somewhat successful, some inconsistencies, fairly adept/ capable.	(13-18 marks) Consistently high levels of skill and/or dexterity, showing ability to successfully make adjustments to practice; able to deal successfully with complexity. Dextrous, fluid, comes naturally, skilled, practiced.
		Examples of skills expected: Working in a safe manner, carrying out machinery and equipment servicing, safety checks and repairs to appropriate specifications and standards, using hand and power tools, special tools, test equipment, and verification tools, use and application of tools and equipment relevant to repairs and maintenance, dismantling, inspecting and reinstating systems, measuring and marking out, cutting, shaping and joining materials, maintenance and testing of electric and hydraulic systems, completing documentation.		

		Bottom of band: Little compliance with risk assessment. Unsure of how to use, handle and dispose of materials in the correct manner. Generally working in an untidy, but safe manner. Poor ability to use tools, often uses the wrong tool for the job. Limited ability to carry out servicing in any logical manner. Unsure what documentation is required. Top of band: Limited compliance with risk assessments. Materials not always used, handled and disposed of in the correct manner. Generally working in a tidy manner. Limited ability to use tools and equipment but techniques are correct. Limited ability to carry out vehicle servicing but uses a logical sequence.	Bottom of band: Good compliance with risk assessment. In most cases material handled and disposed of correctly. Mostly good use of tools and equipment hesitations in selecting correct tool and technique. Majority of the elements of the service and safety check carried out but not always in a logical sequence. Not all documentation completed and with some inaccuracies. Top of band: Broad compliance with risk assessment. Materials generally used, handled and disposed of in the correct manner. Good use of tools and equipment and in most cases showing the correct techniques. Majority of the elements of the service and safety check carried out in a logical sequence.	Bottom of band: Good compliance with risk assessment. Materials always used, handled but not always disposed of correctly. Strong use of tools and equipment always selecting the correct tool but not always using the correct technique. All elements of the service and safety check carried out but not always in a logical sequence. Full documentation completed with very minor inaccuracies. All practical tasks carried out in line with industry standards. Top of band: Full compliance with workplace risk assessment. Materials always used, handled and disposed of correctly. Excellent use of tools and equipment always selecting the correct tool and using the correct technique. All elements of the service and safety checks carried out in a logical sequence. All practical tasks carried out in line with industry speeds and standards.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
20	AO4 Bringing it all together - coherence of the whole subject • Does the candidate draw from the breadth of their knowledge and skills? • Does the candidate remember to reflect on theory when solving practical problems? • How well can the candidate work out solutions to new contexts/ problems on their own?	(1-4 marks) Some evidence of consideration of theory when attempting tasks. Tends to attend to single aspects at a time without considering implication of contextual information. Some random trial and error, new situations are challenging, expects guidance, narrow. Many need prompting.	(5-8 marks) Shows good application of theory to practice and new context, some inconsistencies. Remembers to apply theory, somewhat successful at achieving fitness for purpose. Some consolidation of theory and practice.	(9-12 marks) Strong evidence of thorough consideration of the context and use of theory and skills to achieve fitness for purpose. Purposeful experimentation, plausible ideas, guided by theory and experience, fit for purpose, integrated, uses whole toolkit of theory and skills.
		Examples of bringing it all together: Applying knowledge and understanding to a particular scenario/ problem – decisions/approaches taken e.g. planning process, contingencies, completion of reports, explaining actions/ discussing options for repair, and verification of repairs. Considering reliance of machine/vehicle systems on each other.		

		Bottom of band: There is some evidence of the candidate using their knowledge, understanding and skills to make straightforward links between limited topics across the qualification. Unsure of correct and safe working procedures. Shows little understanding of the need to work logically with the correct tools and equipment. Shows little understanding of servicing and safety checks when carrying these out in a practical manner. Top of band: The candidate shows evidence of using their knowledge, understanding and skills to make key links between limited topics across the qualification. Some understanding of correct and safe working procedures. Shows some understanding of the need to work logically with the correct tools and equipment.	Bottom of band: The candidate consistently brings together their knowledge, understanding and skills when carrying out assessments and evaluations throughout tasks. Candidate makes key links between a range topics across the qualifications. Shows application of safe working procedures. Shows an understanding of the need to work in a logical sequence, uses correct tools and equipment, but does not always apply this knowledge. Shows an understanding of the requirements for carrying out servicing and safety checks. Top of band: Utilises a range of knowledge, understanding and skills from across the qualification when carrying out assessments and evaluations throughout tasks. Shows good application of safe working procedures. Shows sound understanding of the need to work in a logical	Bottom of band: Utilises a wide range of knowledge, understanding and skills from across the qualification to skills when carrying out assessments and evaluations throughout tasks. Always works in a safe manner showing a full awareness of health and safety requirements. Always works in a logical manner using the correct tools and equipment. Fully aware of the requirements for carrying out vehicle servicing and safety checking. Top of band: Utilises a wide range of knowledge, understanding and skills from across the qualification when carrying out assessments and evaluations creatively and holistically. Always works in a safe manner showing a depth of awareness of health and safety requirements. Always works in a logical manner using the correct tools and equipment.

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
		Shows some understanding of servicing and safety checks when carrying these out in a practical manner.	sequence, uses correct tools and equipment. Shows a good understanding of the requirements for carrying out servicing and safety checks.	Fully aware of the requirements for carrying out vehicle servicing and safety checking. Able to adapt to changing circumstances.
10	AO5 Attending to detail/ perfecting • Does the candidate routinely check on quality, finish etc and attend to imperfections/ omissions? • How much is accuracy a result of persistent care and attention (eg measure twice cut once)? • Would you describe the candidate as a perfectionist and wholly engaged in the subject?	(1-2 marks) Easily distracted or lack of checking. Insufficiently concerned by poor result; little attempt to improve. Gives up too early; focus may be on completion rather than quality of outcome. Careless, imprecise, flawed, uncaring, unfocussed, unobservant, unmotivated.	(3-4 marks) Aims for satisfactory result but may not persist beyond this. Uses feedback methods but perhaps not fully or consistently. Variable/intermittent attention, reasonably conscientious, some imperfections, unremarkable.	(5-6 marks) Alert, focussed on task. Attentive and persistently pursuing excellence. Using feedback to identify problems for correction. Noticing, checking, persistent, perfecting, refining, accurate, focus on quality, precision, refinement, faultless, meticulous.
		Examples of attending to detail: Working in a safe manner, carrying out pre-use checks on machinery and equipment, verifying work before storing machinery and equipment, ensuring machinery and equipment is stored/handed over in a clean and safe condition, checking details of presentation/assignment, checking the results of servicing tests and inspections, re-checking findings, taking/reading accurate measurements and recording, checking bonded joints.		

%	Assessment Objective	Band 1 descriptor Poor to limited	Band 2 descriptor Fair to good	Band 3 descriptor Strong to excellent
		The candidate demonstrates no concern with industry standards, speeds and quality. Limited planning of activities demonstrated. Inaccuracies and gaps in results generated – showing a lack of care. Little commitment to completion of tasks. Limited checks carried out when working. Not all documentation is correctly completed and with a number of inaccuracies.	The candidate shows some consideration with aiming to meet industry standards, speeds and quality. Intermittent level of commitment displayed in work ethic in completion of tasks – e.g. limited attention to detail and customer care when working. Some inaccuracies and gaps in output generated. Some consideration of planning of activities demonstrated. Most checks carried out when working. Most documentation completed with few inaccuracies.	The candidate engages fully with tasks and pushes themselves to meet industry standards, speeds and quality. Demonstrates a consistent positive work ethic and commitment to completion of tasks. The candidate is highly focussed on task with minimal errors. Consistent and considered planning of activities demonstrated. High levels of care and meticulous levels of detail and accuracy throughout. Comprehensive tests carried out throughout working processes. Documentation completed to a high level of accuracy.

Section 3 Learner Materials

26/02/18 Task one

WRO0762

Tools for task 3 - Annual service

- Oil Filter strap – for oil filter removal
- Funnel-for pouring oil in
- Socket for sump plug
- Air compressor / to clean air filter
- Oil catch tray/ pan
- Grease gun
- Assorted socket set
- Assorted spanner set
- Diesel drip tray
- Screw drivers
- Work shop manual
- Torque wrench
- Multi meter
- Oil can
- Ruler

Others consumables/equipment

- Nitrile gloves
- Oil absorbent granules
- Oil 15w40 or 10w30- 7.5L
- Oil filler-VPD500D
- Grease multipurpose
- Eye protection
- Mask/ respirator
- Wasted oil container/disposal (**COSHH approved)**
- Executor for exhaust gases
- Rags to check oil levels
- Crush washer (copper)for sump plug
- Cheek/clean prefilter
- Cheek / clean radiator and oil cooler fins if need
- Cheek and clean sediment bowl if needed
- Note pad and pen
- Boots / overalls
- Rags for cleaning tools
- Diesel filter
- Hydraulic oil filter
- Hydraulic oil ep90

Tools for task 4 alternator remove, replace and test:

- General inspection
- 8mm for battery tiedown
- 13mm to disconnect battery
- One chip for the Exciter
- 10mm for the power wire
- 8mm for the tachometer signal
- 8mm earth
- 13mm spanner and ratchet for alternator brackets
- Check belt and pulley

- Cheek belt tension with a ruler

)ther equipment/ consumables

- New alternator
- Nitrile gloves
- Executor for exhaust gases
- Amp clamp
- Volt meter (multi meter)
- Note pad and pen
- Boots / overalls
- Rags for cleaning tools

RISK ASSESSMENT (RA1)

Date for Review: 26\02\2018

Date of Assessment:	REF:	COMPLETED BY:	LOCATION:	RISK ASSESSMENT DESCRIPTION:
26/02/2018	Task two	Seth Hooks	MMW1	Work shop risk assessment, alternator replacement and annual service.

Mark Appropriate Boxes for type of Risk Assessment (X)

Initial Risk Assessment	X	Review Risk Assessment		Generic	X
Plumpton College Venue/Premises	X	Off-Site Venue/Premises		Activity	
Noise	x	Equipment	X	PPE	X
Vibration		Other	X		

TYPICAL HAZARDS TYPES TO LOOK FOR

Working at height	☐	Slippery/uneven surface	X	Manual handling	X	Repetitive movements	☐	Vibration	☐	Hand tools	X
Heat / Cold	X	Electricity	X	Poor Lighting	☐	Noise	X	Radiation	☐	Substances / Materials (COSHH)	X
Falling objects	☐	Machine operation	X	Fire / explosion	☐	Compressed air	X	Vehicle movement	X	Mechanical Lifting	☐
Open Water	☐	Display Screen Equipment	☐	Livestock	☐	Other	☐		☐		☐

Product/ Activity/Plant HAZARD	Risk Ref. Number	RISK	Who can be harmed	Existing Control measures	Risk Rating with Existing Controls			
		Description			Likelihood	Severity	Rating	RA2 required (tick)
Electrical shock	1	Earthing tools/burns	ME	Disconnect the battery negative terminal	2	2	4	X
Hot fluids/ waste oil and diesel	2	Burns and skin problems such as dermatitis	ME	Follow training - check oil and coolant temperature gauges. Dispose of oil and filters and diesel using COSHH guidelines	2	4	8	X
Slip /Trip	3	Falling	All	Housekeeping - keep your work area tidy. Use oil absorbent granules if you spill oil to prevent slipping. isolate the leak	2	2	6	X
Manual handling/ lifting	4	Back injuries	Me	Follow the training provided. Lift with your knees and keep your back straight	2	4	8	X

Moving vehicles/ machinery	5	Crushed/run over	All	Follow the training provided and check surrounding areas for people or obstacles.	2	6	12	X	
Compressed air	6	Air in blood stream/dirt in eyes/lungs	All	Follow training provided and use PPE. For example, eye protection, dust masks and ear defenders.	2	4	8	X	
Noise	7	Ear damage	All	Use correct PPE, like ear defenders.	2	4	8	X	
Moving Parts	8	Could cause injuries	All	All covers on. Wear overalls and no hanging clothing. Tie hair up.	2	4	8	X	
Exhaust gas extraction	9	Suffocation	All	Use correct equipment, as in, exhaust extracting equipment.	2	4	8	X	
Hand tools	10	Broken bones	Me	Use correct tools to prevent slipping.	2	2	4	X	
Entrapment	11	Crushing /suffocation	All	Keep protective covers on. Turn off and isolate equipment when working on it. Do not wear hanging clothing.	2	4	8	X	
Falling	13	Injuries to body	Me	Get out of the cab backwards as trained.	2	4	8	X	

SEVERITY: The level of potential harm/damage		SCORING CRITERIA					RISK RATING: (Likelihood x Severity)		
		NEGLIGABLE	MINOR	SERIOUS	SEVERE	FATALITY			
LIKELIHOOD that a hazard will cause harm/damage.	HIGHLY UNLIKELY	1	2	3	4	5	NEGLIGABLE	0	NO ACTION REQUIRED
	UNLIKELY	2	4	6	8	10	LOW	1-5	LONG-TERM PLAN FOR IMPROVEMENT
	POSSIBLE	3	6	9	12	15	MEDIUM	6-11	ACTION Before Next job if not this
	PROBABLE	4	8	12	16	20	HIGH	12-19	Action before current job (RA2 form required)
	ALMOST CERTAIN	5	10	15	20	25	VERY HIGH	20-25	Action immediately (RA2 form required)

6-11	ACTION Before next job if not possible to reduce any further
12-19	Action before current job (complete RA2 form)
20-25	Take immediate action (complete RA2 form)

Carry Out Service

Student Name		Task No 3	024 – synoptic assignment	Date	8/03/18

To complete the following practical tasks you will be required to follow all Health and Safety requirements, and good working practices that adhere to all legal requirements that are required within the work place:

Task 3: Conduct an annual service of the tractor in accordance with the manufacturer's instructions. During the task, you must complete this service schedule.

Make	Model	Engine or VIN Number	Vehicle Reg. Nº	Mileage/hours
massey-Ferguson	365	nA	J433 ECD	39698

SERVICE SCHEDULE FOR ASSESSMENT: -

VEHICLE ON FLOOR

Body work / paint / front windscreen damage check

Mark on the diagram the following damage using the symbols listed:

Dents = O

Scratches = ✖

Rust = ☐

Comments:

VISUAL INSPECTION

Area / Component	Method	✖ ✓	Comments
Lighting system	Check/report	✓	left Back Light
Directional indicators	Check/report	✓	
Instrument illumination	Check/report	✓	
Interior lighting	Check/report	✓	no Bulb
Horn	Check/report	✓	
Heater blower/air con (if applicable)	Check/report	✓	
Seat belt and mountings	Check/report	✓	
Instrument operation	Check/report	✓	
Instrument warning lights	Check/report	✓	
Switches and controls	Check/report	✓	
Hand brake travel	Check/report	✓	
Service brake travel	Check/report	✓	
Service brake pedal lock	Check/report	✓	
Front wiper blades	Check/report	✓	
Front washers	Check/report	✓	

Rear wiper blades	Check/report	X	
Rear washers	Check/report	X	
Head light aim	Check/adjust	✓	

Carry Out Service

MAINTENANCE			
Area / Component	**Method**	**× ✓**	**Comments**
Air pre-cleaner	Check/clean/report	✓	
Dry air cleaner MAIN element	Check/clean/report	✓	
Engine oil leaks	Check/report	✓	Small weeps hydraulic
Engine oil	Drain/refill	✓	
Engine oil filter	Renew	✓	
Clutch operating system	Check/report	✓	
Clutch operating clearance	Check/adjust	✓	
Transmission oil leaks	Check/report	X	small weeps
Steering joints	Check/report/grease	✓	
Steering rack/box	Check/report/grease	✓	
PAS hoses	Check/report	✓	
Steering column couplings	Check/report	✓	
Suspension joints/seal/gaiters	Check/report/grease	NA	
Drive shaft joints/seals/gaiters	Check/report/grease	NA	
Shock absorbers (damper) /mountings	Check/report	NA	
Exhaust system/mountings	Check/report	✓	
Brake pipes corrosion	Check/report	X	
Brake hoses perishing and splitting	Check/report	X	
Brakes	Check/adjust	✓	
Fuel system leakage	Check/report		small weeps
Fuel filter bowl	Check/drain sediment	✓	Due at miles/hours 36798
Under body damage/corrosion	Check/report	NA	
Grease all other grease nipples	Check/report/grease	✓	
Cab air filter	Remove/clean	✓	
Oil can	Lubricate	✓	

MAINTENANCE			
Area / Component	**Method**	**× ✓**	**Comments**
Front wheel bearings	Check/report/grease	✓	
Road wheels	Check/report	✓	
Tyre condition	Check/report	✓	no cuts or tears
Tyre pressures	Check/adjust	✓	
Brake fluid condition	Check/top-up/report	✓	
Handbrake linkage/cables	Check/report	✓	

Carry Out Service

UNDER BONNET OPERATIONS			
Area / Component	**Method**	**✗ ✓**	**Comments**
Battery terminals	Check/re-grease	✓	
Battery electrolyte level	Check/top-up	✓	
Battery voltage	Check	✓	Volts 12.62
Under bonnet wiring/connectors	Check/report	✓	
Windscreen washer fluid	Check/top-up	✓	
Brake fluid level/condition	Check/top-up	✓	
Power steering fluid	Check/top-up	✓	
Radiator coolant level/anti-freeze strength	Check/top-up	✓	
Coolant hoses	Check/report	✓	
Radiator, oil cooler fins & air conditioner condenser (if fitted)	Check/clean/report	✓	
Transmission/hydraulic oil level	Check/top-up /report	✓	
Hydraulic filter	Check/report		Due at miles/hours
Auxiliary drive belt/s	Check/report	✓	

FINAL ITEMS CHECK			
Area / Component	**Method**	**✗ ✓**	**Comments**
Road wheel nuts/bolts	Check/re-grease	✓	
Vehicle locks and hinges	Check/lubricate	✓	
PTO guard and on/off controls	Check/report	✓	
3 point pick up assembly	Check/report	✓	
7 pin connector	Check/report	✓	

Tyre condition report

	Tyre pressure (psi)		Tyre pressure (psi)
N/S/F	25	**O/S/F**	10
N/S/R	23	**O/S/R**	10

Additional comments on tyre condition:

use no Big splits or cuts

	✗ ✓
Seat covers, floor mats and wing cover used	✓

Recommendations report:

A nees aclean.

[redacted] 12/01/601 task 4

Mans Specs	Load	noLoad
Volts 14.2 V	~~13~~ 13.40	13.80
Amps 70 Max	11-13 Amps	11-14 Amps
Rest Voltage. 12.6v	12.8	

[redacted]

Task 4 results
22/02/2018

Manufacturers specs	load	No load
Volts 14.2	13.40V	13.80V
Amps 70 max	11-13 amps	11-14 amps
Rest voltage 12.6v		

Candidate Record Form

Technical qualifications

Level 2 Technical Certificate in Land-Based Engineering (0171-28)
Level 2 Land-Based Engineering - Synoptic assignment (0171-024)

Candidate name	Candidate number
Centre name	**Centre number**

Marker Notes *– Please always refer to the relevant marking grid for guidance on allocating marks and make notes that describe the quality of the evidence and justification of marks. Expand boxes as required.*

AO1 – Recall - Breadth, depth, accuracy												
20%	1	2	3	4	5	6	7	8	9	10	11	12
AO1 Mark	Notes & justification											

Task 1 – tool list

A comprehensive list of tools, equipment and materials was produced by Seth that were then used in the latter two tasks. There was an excellent demonstration of how to access the correct technical information, throughout this task. For example rather than merely stating that engine oil was required, Seth was able to give a couple of examples of compatible engine oil grades based on what was available to him and ambient operating conditions. When stating the size of tools however, it was often noted that the tool itself wasn't mentioned. For example rather than stating an 8mm ring spanner, Seth would merely state 8mm.

Task 2 – risk assessment

Seth produced a detailed risk assessment covering most of the hazards, who they harm as well as how to reduce them, that can be applied to tasks 3 and 4. A wide range of accurate examples were included, complete with appropriate terminology, drawn from across the qualification. The inclusion of additional risks, for example the risks associated with battery acid would have embellished this risk assessment further.

Task 3 – 250 hour service

- Correct PPE was worn prior to commencing the task. This was unprompted and suitable for the task due to be carried out. PPE included steel toe capped safety boots, overalls and nitrile gloves.
- Seth carried out a comprehensive visual inspection of the tractor, entering and exiting the cab safely to carry out relevant tests and testing all available electrical circuits.
- Seth gave an excellent recall as to why the o ring on the filter needed to be oiled, citing that failure to do so may result in engine oil leaks etc.

- Seth was able to confidently access the vehicle's technical data, throughout the task. He used the manual throughout the task to correctly identify locations of component parts and other specifications. For example it was established that the engine oil was 7.5 litres capacity.

Task 4 – alternator removal, replacement and test

- Wore full and correct PPE without prompting, before entering the workshop.
- Demonstrated comprehensive and appropriate use of the manufacturer's procedures and technical data prior to carrying out the task therefore ascertaining the exact location of the electrical component, process of dismantle and refit.
- Confidently ensured that the vehicle was completely safe, prior to undertaking any work. Any oil spills were soaked up using oil absorbent granules and the wheels were chocked, for example.
- The correct and appropriate tooling was used for the dismantling, refit and testing of the component in the giving task.
- The tools were collected promptly, although the voltmeter was left on the front axle of the tractor whilst Seth started the vehicle.
- Seth didn't have the bolts to hand when fitting the engine cover and left the cover unsupported whilst returning to his workstation to retrieve them, this had the potential for a drop hazard.
- A complete list of results were accurate and correctly obtained.

AO2 – Understanding - Security of concepts, causal links

20%	1	2	3	4	5	6	7	8	9	10	11	12

AO2 Mark

Notes & justification

Task 1 – tool list

The tools, equipment and materials that were predicted to be used in the latter two tasks were in fact used. A causal link between the disposal of hazardous materials and the legislative act that governs it, amongst other elements, demonstrates a comprehensive understanding of what is required for tasks 3 and 4.

Task 2 – risk assessment

It is evident that Seth understands both how to complete the risk assessment form and how risks are likely to affect him in the workshop as well as completing the tasks such as those in tasks 3 and 4. Full compliance with safety and risk assessments to include the disposal of hazardous waste, the importance of correct training as well as some implications for lack of both.

Task 3 – 250 hour service

- Seth could give a sound identification of the importance of servicing both to comply with legislation and increase operational life span.
- Seth demonstrated complete understanding when inspecting the lighting system. In order to inspect the lighting systems it was necessary to exit the cab. This was always carried out, with exception to when the brake pedal had to be operated. In this case the rear window was opened where he could then ascertain whether the lights were correctly working or not.

- He was able to promptly identify a faulty indicator bulb and give a comprehensive justification as to what could have caused the fault i.e. a blown bulb or faulty wiring but ruled out a blown fuse as other bulbs in the circuit were working correctly.
- Seth was slick in how he drained and disposed of used engine oil. This was verbally inferred with an excellent recall of facts regarding the disposal of hazardous waste in accordance with local authority regulations.
- Seth gave a broad justification as to why the o ring on the oil filter needs to be oiled prior to the fitting the filter hand tight.
- Could give a balanced account as to both the benefits of using a grease gun as well as the ramifications of a lack of grease.
- Gave a good explanation of ladder/platform safety when changing a cab filter, stating that the user of the ladder must pitch the ladder against something, have someone footing it and maintain 3 points of contact.
- Sound understanding as to the ramifications of a poorly adjusted clutch i.e. premature wear, slippage etc. He then explained how to then adjust the clutch, in accordance with manufacture's specifications
- A good overall understanding of the service activities asked in task 3, with the majority evidenced in the service report. There was one example where the hydraulic filter was not checked/reported, however.

Task 4 – alternator removal, replacement and test

- Demonstrated comprehensive knowledge of Health and Safety implications. Seth placed oil absorbent granules and drip trays to ensure that the working area was safe. Furthermore, Seth justified his actions by stating the implications of slips, trips and falls as well as stating the importance of PPE to the individual.
- Seth gave thorough explanations, if a little hesitated at times, of the task whilst demonstrating his acquired knowledge.
- Strong explanation and demonstration when describing typical physical faults of an alternator. Seth gave examples of typical faults to include: the bearings, pulley and drive belt.
- Seth gave a good explanation of the various methods of adjusting the belt tension including: the manufacturer's specifications, ¼ turn of the belt and a brief description of a belt tensioning gauge.
- Good and logical workshop practices demonstrated throughout the task, with tools, parts and accessories appropriately stored.
- There was a demonstration of logical reasoning between the results detailed in the table based on whether the alternator is under load or not. A causal link could be verbally generated by the candidate to infer that the alternator was functioning correctly.

AO3 - Practical skill - Dexterity, fluidity, confidence, ease of application

30%	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

AO3 Mark

Notes & justification

Task 1 – tool list

Seth completed all of the documentation required for this task with very minor inaccuracies. For example the word 'check' was misspelt on several occasions. It was however clearly laid out and formatted correctly.

Task 2 – risk assessment

Generally successful in completing the risk assessment however some elements remained partially incomplete. For example there has been no declaration signed and no mark confirming that this risk assessment is for an 'activity'.

Task 3 – 250 hour service

- Confident throughout the task, never phased and completed the service sheet with ease and with minimal gaps.
- Fantastic hand eye coordination.
- Safe and proficient practical skill when carrying out visual inspection, the correct PPE was worn unprompted throughout. The correct tools were always used throughout the task and collected in the first instance.
- The procedure for removing and refitting the engine and hydraulic oil filters was logical, with thoughtful decisions taken to make this part of the task easier. A catch can was placed beneath the oil filter, prior to the removal of the filter and there was no problem in removing the engine and hydraulic filters, using the filter strap. The filter was refitted professionally hand tight.
- There was evidence of the correct tool always being selected and being used correctly, in line with industry standards.
- Full compliance with health and safety as well as a causal link between this task and the risk assessment. Additional correct PPE was worn when cleaning the air filter. This filter was cleaned using an air filter and in accordance with the manufacturer's instructions (i.e. inside through to out), before being fitted in the correct way.
- Appeared practiced in the way the grease gun was used. It was used correctly and confidently, stopping the insertion of grease when resistance was felt.
- Vast majority of the checklist within the service documentation was carried out and was conducted in a logical sequence.

Task 4 – alternator removal, replacement and test

- A complete and thorough visual inspection was conducted, making the tractor physically safe, ensuring that the vehicle as in neutral and the parking brake on, prior to undertaking work.
- Demonstrated appropriate storage of nuts and bolts when dismantling components. This included replacing the nuts onto the back of the alternator to ensure that they were not lost, placing the engine cover out of the way, to ensure that it was not a trip hazard etc.
- Dexterous in the way the task was conducted but did drop nuts and bolts a couple of times. Seemed to comprehend the direction of the right hand threaded bolt.
- Methodical process when dismantling, refitting and testing component coupled with the appropriate and competent use of hand and specialist tools.
- Appropriate use of multi-meter and amp clamp, whilst carrying out tests.
- Full documentation carried out with very minor inaccuracies noted from the tests carried out. For example the tests were not completed under full load.

AO4 – Bringing it together - use of knowledge to apply skills in new context												
20%	1	2	3	4	5	6	7	8	9	10	11	12
AO4 Mark	Notes & justification											

Task 1 – tool list

Utilising a wide range of knowledge, understanding and skill from across the qualification tasks 3 and 4 were suitably planned. All of tools, equipment and materials that were predicted to be used in the latter two tasks were in fact used, with evidence of some contingency planning as well. This demonstrates a strong understanding of what is required to complete the latter two tasks.

Task 2 – risk assessment

Seth utilised a wide range of knowledge, understanding and skills from across the qualification when carrying out the risk assessment. It was detailed and included common risks associated with working in the workshop and carrying out practical tasks. It was also evident that the risk assessment was being adhered to throughout tasks 3 and 4.

Task 3

- Seth accurately used the workshop manual to ascertain the engine oil capacity.
- Seth multitasked throughout the task, meaning that time was used effectively throughout.
- No issues with the direction of the right hand thread, Dexterous throughout.
- Gave a comprehensive explanation of the implications associated with not draining the water and sediment out of the fuel system. Correctly stated that water would sink to the bottom of the sediment bowl and was able to identify how to remove the water and sediment. Identified engine faults associated with not removing water or sediment from the fuel system.
- Used the workshop manual to identify the location of adjusters, this element of the task was guided by theory and experience.
- Could give a valid explanation as to how to test the coolant using the correct equipment and suitable technical terminology. Verbal recommendations were given for replacement if the coolant was not within manufacturer's specifications.
- The correct tools could always be promptly identified and named. For example a torque wrench was selected to torque the wheel bolts of the front and rear wheels of the tractor.
- Seth utilised a wide range of knowledge, understanding and skills to complete this report, ensuring that it is fit for purpose.

Task 4 – alternator removal, replacement and test

- Good understanding of how to carryout testing of the alternator, although the tests were carried out under partial load.
- Hesitated but comprehensive understanding of how the alternator affects other systems.
- Carried out both the voltage and amp clamp tests.
- Explained and plausibly recommended actions needed for repair, should the alternator be defective.
- Documentation was completed using logic, theory and experience.

AO5 - Attending to detail / perfecting - Repeated checking, perfecting, noticing, engaged						
10%	1	2	3	4	5	6
AO5 Mark	Notes & justification					

Task 1 – tool list

All of the tools, materials and equipment used in the latter two tasks was included in this assignment. It was detailed and methodically laid out, being subdivided into categories for the two tasks. Further contingency planning would have embellished this report further, for example, the inclusion of wire crimps and the associated tooling, should the alternator wiring have been in need of repair.

Task 2 – risk assessment

The risk assessment was mostly completed with only a couple of minor inaccuracies. For example, there was no declaration signature or mark to specify that the risk assessment covered activities such as those in tasks 3 and 4. There were however a variety of risks that were present in the workshop.

Task 3

- Engaged fully with task, Seth pushed himself to meet industry standards, quality and timeframe.
- Health and safety conscious throughout. For example, Seth stated that he would place the vehicle on axle stands, when using a hydraulic jack.
- Reported any defective item on the service sheet and was able to enhance understanding verbally with assessor.
- Took accurate recordings of tyre pressures.
- Rechecked the engine oil level after running the engine and could justify the need for the extractor in a workshop environment.
- The engine and transmission were also checked for leaks, after the engine had been run for five minutes (reference manufacturer's specifications).
- Carried out the visual inspection methodically, whilst working through service sheet.
- Cleaned the air filter to a high standard, ensuring that no dirt was present, before refitting.
- Described removing the drain plug and the tools used.
- Noticed slip hazards and placed oil absorbent granules on oil spills etc.
- Vast majority of the documentation completed with little to no inaccuracies. Comprehensive and accurate tests were carried out to include battery voltage and tyre pressure tests.

Task 4 – alternator removal, replacement and test

- Chocked wheels and made vehicle safe, prior to commencing work.
- Seth predominantly worked in a safe and methodical manner, verifying that the replacement component would fit the vehicle (part number, size requirements etc.).
- Checked belt tension in the correct way and accurately described how to adjust tension, in accordance with the manufacturer's specifications.
- Persistently consulted manual for specifications prior to and throughout the task, focussing on the quality of work.
- Carried out comprehensive pre-start checks to include a visual inspection as well as checks to the engines oil levels.
- Meticulously cleaned tools and recounted when finishing the task.
- Spotted and reported potential hazard.
- Methodically checked and rechecked, throughout the task, he was constantly committed to the completion of this task.
- Documentation was completed with a high level of accuracy, reflecting the comprehensive alternator output tests carried out.

TOTAL marks 50

Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
0171-24	0171-28
Candidate name	**Candidate number**
[redacted]	[redacted]
Centre name	**Centre number**
[redacted]	[redacted]

Complete the table below referring to the relevant marking grid found in the assessment pack.
Do not allocate marks at this stage.

Assessment Objective (AO)	**Notes –** *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
AO1 Describe how well the candidate shows **recall** of knowledge e.g. stating facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	A comprehensive list of tools, equipment and materials was produced by Seth that were then used in the latter two tasks. There was an excellent demonstration of how to access the correct technical information, throughout this task. For example rather than merely stating that engine oil was required, Seth was able to give a couple of examples of compatible engine oil grades based on what was available to him and ambient operating conditions. When stating the size of tools however, it was often noted that the tool itself wasn't mentioned. For example rather than stating an 8mm ring spanner, Seth would merely state 8mm.
AO2 Describe how well the candidate shows **understanding** when carrying out practical tasks e.g. their explanation of why they are completing a process or how they may change their course of action / are they able to justify their actions etc.	The tools, equipment and materials that were predicted to be used in the latter two tasks were in fact used. A causal link between the disposal of hazardous materials and the legislative act that governs it, amongst other elements, demonstrates a comprehensive understanding of what is required for tasks 3 and 4.
AO3 Describe how well the candidate demonstrated their **practical skills**. e.g.	Seth completed all of the documentation required for this task with very minor inaccuracies. For example the word 'check' was misspelt on

Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
how practiced/fluid is hand eye coordination and dexterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.	several occasions. It was however clearly laid out and formatted correctly.
AO4 Describe how well the candidate **brings it all together** – e.g. how **coherent** are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.	Utilising a wide range of knowledge, understanding and skill from across the qualification tasks 3 and 4 were suitably planned. All of tools, equipment and materials that were predicted to be used in the latter two tasks were in fact used, with evidence of some contingency planning as well. This demonstrates a strong understanding of what is required to complete the latter two tasks.
AO5 Describe how well the candidate **attended to detail** e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working *etc.*	All of the tools, materials and equipment used in the latter two tasks was included in this assignment. It was detailed and methodically laid out, being subdivided into categories for the two tasks. Further contingency planning would have embellished this report further, for example, the inclusion of wire crimps and the associated tooling, should the alternator wiring have been in need of repair.

Task 3

City & Guilds

Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
0171-24	0171-28
Candidate name	**Candidate number**
[redacted]	[redacted]
Centre name	**Centre number**
[redacted]	[redacted]

Complete the table below referring to the relevant marking grid found in the assessment pack.
Do not allocate marks at this stage.

Assessment Objective (AO)	**Notes –** *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
AO1 Describe how well the candidate shows **recall** of knowledge e.g. stating facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	• Correct PPE was worn prior to commencing the task. This was unprompted and suitable for the task due to be carried out. PPE included steel toe capped safety boots, overalls and nitrile gloves. • Seth carried out a comprehensive visual inspection of the tractor, entering and exiting the cab safely to carry out relevant tests and testing all available electrical circuits. • Seth gave an excellent recall as to why the o ring on the filter needed to be oiled, citing that failure to do so may result in engine oil leaks etc. • Seth was able to confidently access the vehicle's technical data, throughout the task. He used the manual throughout the task to correctly identify locations of component parts and other specifications. For example it was established that the engine oil was 7.5 litres capacity.
AO2 Describe how well the candidate shows **understanding** when carrying out practical tasks e.g. their explanation of why they are completing a process or how they may change	• Seth could give a sound identification of the importance of servicing both to comply with legislation and increase operational life span. • Seth demonstrated complete understanding when inspecting the lighting system. In order to inspect the lighting systems it was necessary to exit the cab. This was always carried out, with exception to when the brake pedal had to be operated. In this

Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
their course of action / are they able to justify their actions etc.	case the rear window was opened where he could then ascertain whether the lights were correctly working or not. • He was able to promptly identify a faulty indicator bulb and give a comprehensive justification as to what could have caused the fault i.e. a blown bulb or faulty wiring but ruled out a blown fuse as other bulbs in the circuit were working correctly. • Seth was slick in how he drained and disposed of used engine oil. This was verbally inferred with an excellent recall of facts regarding the disposal of hazardous waste in accordance with local authority regulations. • Seth gave a broad justification as to why the o ring on the oil filter needs to be oiled prior to the fitting the filter hand tight. • Could give a balanced account as to both the benefits of using a grease gun as well as the ramifications of a lack of grease. • Gave a good explanation of ladder/platform safety when changing a cab filter, stating that the user of the ladder must pitch the ladder against something, have someone footing it and maintain 3 points of contact. • Sound understanding as to the ramifications of a poorly adjusted clutch i.e. premature wear, slippage etc. He then explained how to then adjust the clutch, in accordance with manufacture's specifications • A good overall understanding of the service activities asked in task 3, with the majority evidenced in the service report. There was one example where the hydraulic filter was not checked/reported, however.
AO3 Describe how well the candidate demonstrated their **practical skills**. e.g. how practiced/fluid is hand eye coordination and dexterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.	• Confident throughout the task, never phased and completed the service sheet with ease and with minimal gaps. • Fantastic hand eye coordination. • Safe and proficient practical skill when carrying out visual inspection, the correct PPE was worn unprompted throughout. The correct tools were always used throughout the task and collected in the first instance. • The procedure for removing and refitting the engine and hydraulic oil filters was logical, with thoughtful decisions taken to make this part of the task easier. A catch can was placed beneath the oil filter, prior to the removal of the filter and there was no problem in removing the engine and hydraulic filters, using the filter strap. The filter was refitted professionally hand tight.

Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
	• There was evidence of the correct tool always being selected and being used correctly, in line with industry standards. • Full compliance with health and safety as well as a causal link between this task and the risk assessment. Additional correct PPE was worn when cleaning the air filter. This filter was cleaned using an air filter and in accordance with the manufacturer's instructions (i.e. inside through to out), before being fitted in the correct way. • Appeared practiced in the way the grease gun was used. It was used correctly and confidently, stopping the insertion of grease when resistance was felt. • Vast majority of the checklist within the service documentation was carried out and was conducted in a logical sequence.
AO4 Describe how well the candidate **brings it all together** – e.g. how **coherent** are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.	• Seth accurately used the workshop manual to ascertain the engine oil capacity. • Seth multitasked throughout the task, meaning that time was used effectively throughout. • No issues with the direction of the right hand thread, Dexterous throughout. • Gave a comprehensive explanation of the implications associated with not draining the water and sediment out of the fuel system. Correctly stated that water would sink to the bottom of the sediment bowl and was able to identify how to remove the water and sediment. Identified engine faults associated with not removing water or sediment from the fuel system. • Used the workshop manual to identify the location of adjusters, this element of the task was guided by theory and experience. • Could give a valid explanation as to how to test the coolant using the correct equipment and suitable technical terminology. Verbal recommendations were given for replacement if the coolant was not within manufacturer's specifications. • The correct tools could always be promptly identified and named. For example a torque wrench was selected to torque the wheel bolts of the front and rear wheels of the tractor. • Seth utilised a wide range of knowledge, understanding and skills to complete this report, ensuring that it is fit for purpose.

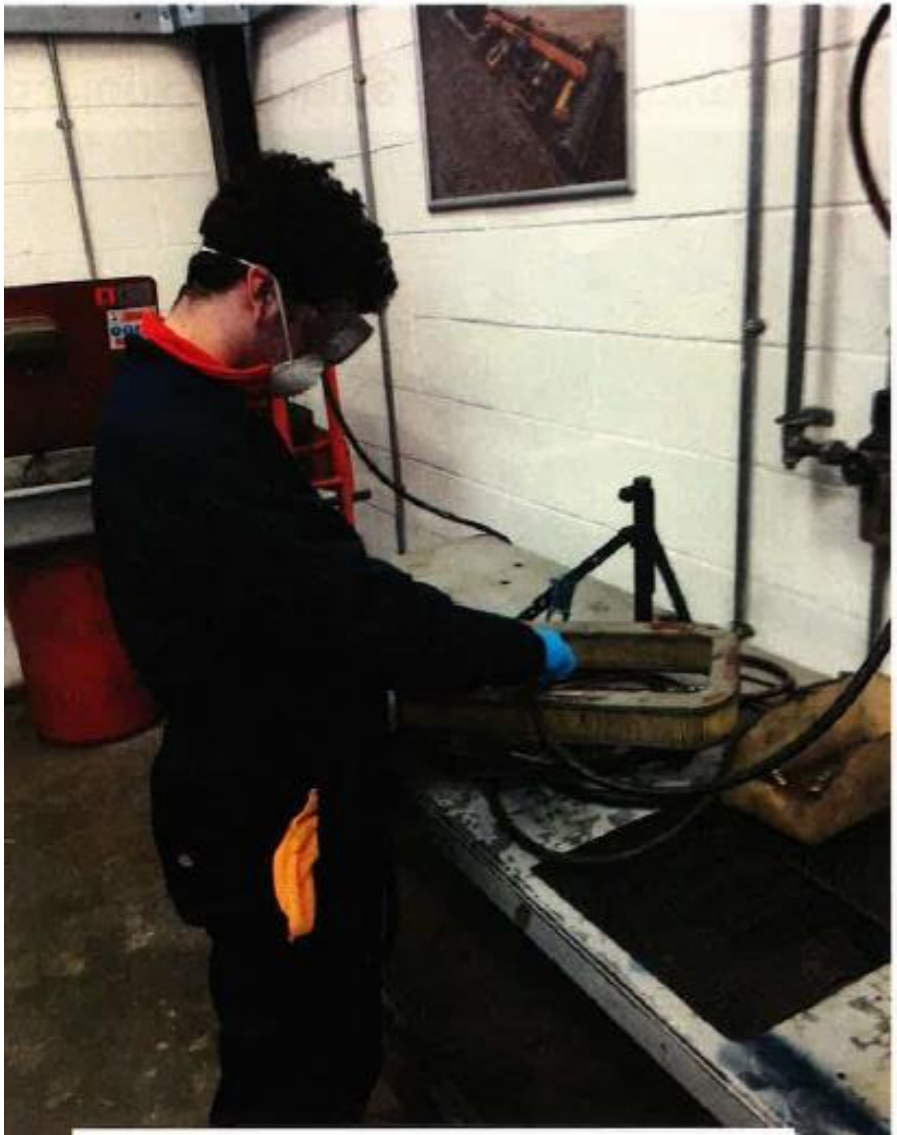
Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
AO5 Describe how well the candidate **attended to detail** e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working *etc.*	• Engaged fully with task, Seth pushed himself to meet industry standards, quality and timeframe. • Health and safety conscious throughout. For example, Seth stated that he would place the vehicle on axle stands, when using a hydraulic jack. • Reported any defective item on the service sheet and was able to enhance understanding verbally with assessor. • Took accurate recordings of tyre pressures. • Rechecked the engine oil level after running the engine and could justify the need for the extractor in a workshop environment. • The engine and transmission were also checked for leaks, after the engine had been run for five minutes (reference manufacturer's specifications). • Carried out the visual inspection methodically, whilst working through service sheet. • Cleaned the air filter to a high standard, ensuring that no dirt was present, before refitting. • Described removing the drain plug and the tools used. • Noticed slip hazards and placed oil absorbent granules on oil spills etc. Vast majority of the documentation completed with little to no inaccuracies. Comprehensive and accurate tests were carried out to include battery voltage and tyre pressure tests.

Tutor signature	**Date**
	8/3/18

Task 3 - Service

S. Hooks draining sediment from the fuel filter.

S. Hooks torquing wheel bolts



S. Hooks cleaning cab air filter.

S. Hooks draining engine oil.

Task 4

City & Guilds

Technical qualifications - Practical Observation Form

Assessment ID	Qualification number
0171-24	0171-28
Candidate name	**Candidate number**
[redacted]	[redacted]
Centre name	**Centre number**
[redacted]	[redacted]

Complete the table below referring to the relevant marking grid found in the assessment pack.
Do not allocate marks at this stage.

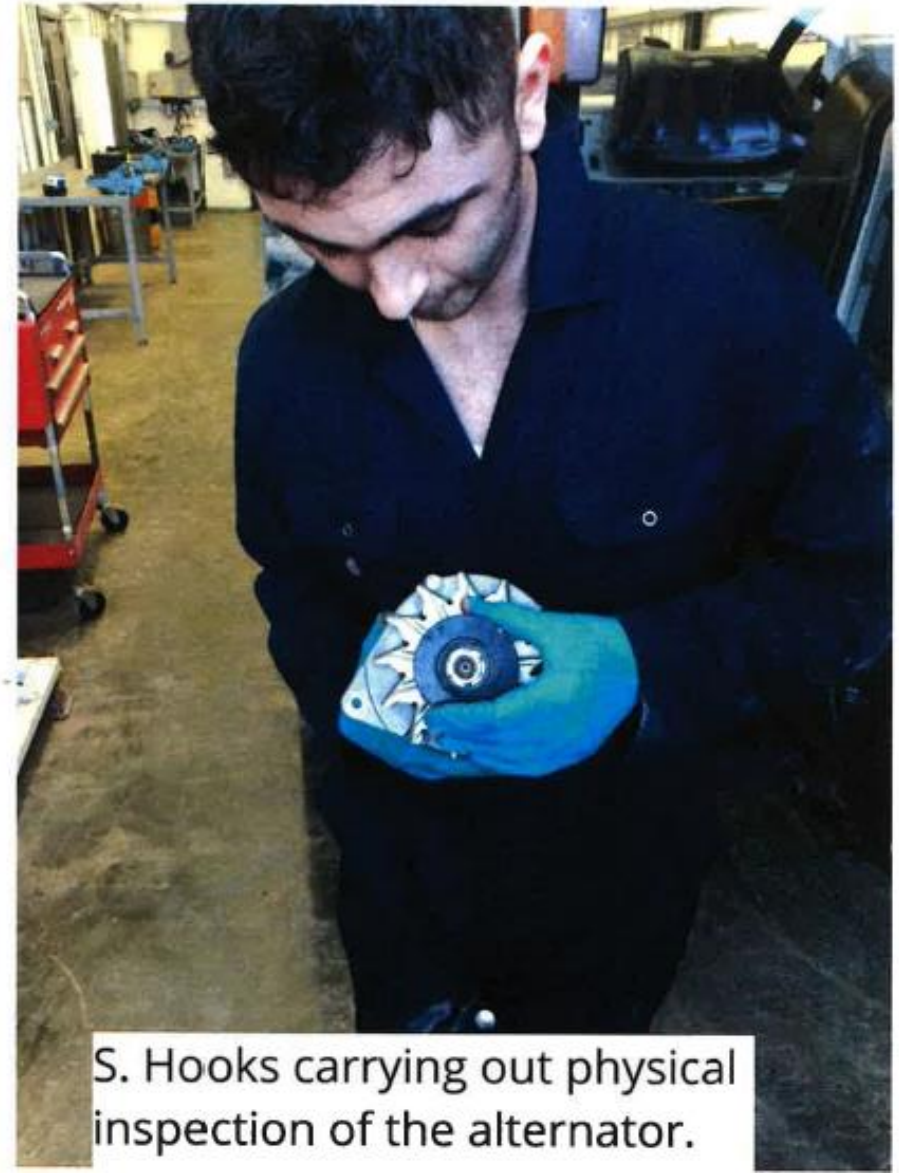
Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
AO1 Describe how well the candidate shows **recall** of knowledge e.g. stating facts without explanation / simple descriptions of what they are carrying out / showing aspects of straightforward knowledge through logical sequencing and application of skill etc.	• Wore full and correct PPE without prompting, before entering the workshop. • Demonstrated comprehensive and appropriate use of the manufacturer's procedures and technical data prior to carrying out the task therefore ascertaining the exact location of the electrical component, process of dismantle and refit. • Confidently ensured that the vehicle was completely safe, prior to undertaking any work. Any oil spills were soaked up using oil absorbent granules and the wheels were chocked, for example. • The correct and appropriate tooling was used for the dismantling, refit and testing of the component in the giving task. • The tools were collected promptly, although the voltmeter was left on the front axle of the tractor whilst Seth started the vehicle. • Seth didn't have the bolts to hand when fitting the engine cover and left the cover unsupported whilst returning to his workstation to retrieve them, this had the potential for a drop hazard. • A complete list of results were accurate and correctly obtained.
AO2 Describe how well the candidate shows **understanding** when carrying out practical	• Demonstrated comprehensive knowledge of Health and Safety implications. Seth placed oil absorbent granules and drip trays to ensure that the working area was safe. Furthermore, Seth

Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
tasks e.g. their explanation of why they are completing a process or how they may change their course of action / are they able to justify their actions etc.	justified his actions by stating the implications of slips, trips and falls as well as stating the importance of PPE to the individual. • Seth gave thorough explanations, if a little hesitated at times, of the task whilst demonstrating his acquired knowledge. • Strong explanation and demonstration when describing typical physical faults of an alternator. Seth gave examples of typical faults to include: the bearings, pulley and drive belt. • Seth gave a good explanation of the various methods of adjusting the belt tension including: the manufacturer's specifications, ¼ turn of the belt and a brief description of a belt tensioning gauge. • Good and logical workshop practices demonstrated throughout the task, with tools, parts and accessories appropriately stored. • There was a demonstration of logical reasoning between the results detailed in the table based on whether the alternator is under load or not. A causal link could be verbally generated by the candidate to infer that the alternator was functioning correctly.
AO3 Describe how well the candidate demonstrated their **practical skills**. e.g. how practiced/fluid is hand eye coordination and dexterity / how confident are they / how accurate or 'polished' is the outcome / safe working etc.	• A complete and thorough visual inspection was conducted, making the tractor physically safe, ensuring that the vehicle as in neutral and the parking brake on, prior to undertaking work. • Demonstrated appropriate storage of nuts and bolts when dismantling components. This included replacing the nuts onto the back of the alternator to ensure that they were not lost, placing the engine cover out of the way, to ensure that it was not a trip hazard etc. • Dexterous in the way the task was conducted but did drop nuts and bolts a couple of times. Seemed to comprehend the direction of the right hand threaded bolt. • Methodical process when dismantling, refitting and testing component coupled with the appropriate and competent use of hand and specialist tools. • Appropriate use of multi-meter and amp clamp, whilst carrying out tests. • Full documentation carried out with very minor inaccuracies noted from the tests carried out. For example the tests were not completed under full load.
AO4 Describe how well the candidate **brings it all together** – e.g. how	• Good understanding of how to carryout testing of the alternator, although the tests were carried out under partial load.

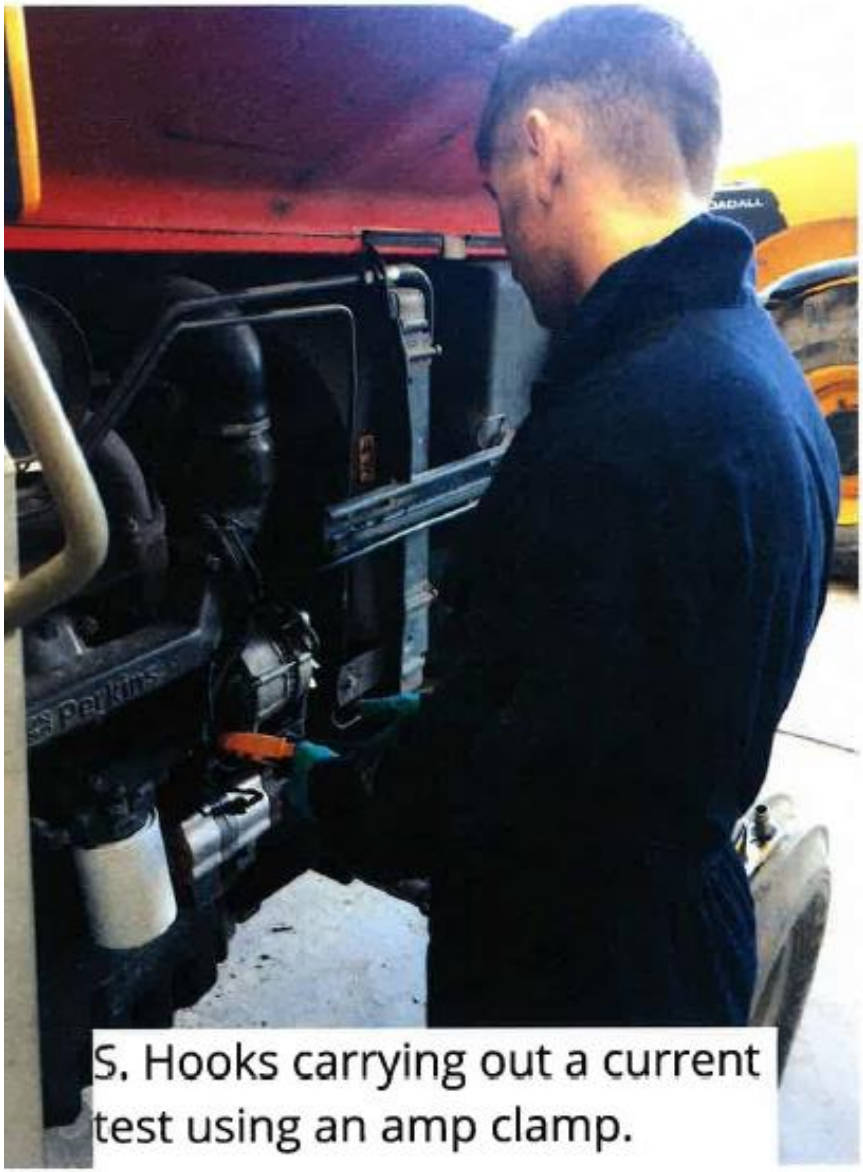
Assessment Objective (AO)	**Notes** – *detailed, accurate and differentiating notes that identify areas of strength and weakness are necessary to distinguish between different qualities of performance, and to facilitate accurate allocation of marks once all evidence has been submitted.*
coherent are their actions / how well do they draw from the breadth of their knowledge and skills / reflection on theory when solving practical problems / How well can they work out solutions to new contexts/ problems on their own / time management etc.	• Hesitated but comprehensive understanding of how the alternator affects other systems. • Carried out both the voltage and amp clamp tests. • Explained and plausibly recommended actions needed for repair, should the alternator be defective. • Documentation was completed using logic, theory and experience.
AO5 Describe how well the candidate **attended to detail** e.g. professionalism / perfecting / accuracy / checking / taking care / methodical working etc.	• Chocked wheels and made vehicle safe, prior to commencing work. • Seth predominantly worked in a safe and methodical manner, verifying that the replacement component would fit the vehicle (part number, size requirements etc.). • Checked belt tension in the correct way and accurately described how to adjust tension, in accordance with the manufacturer's specifications. • Persistently consulted manual for specifications prior to and throughout the task, focussing on the quality of work. • Carried out comprehensive pre-start checks to include a visual inspection as well as checks to the engines oil levels. • Meticulously cleaned tools and recounted when finishing the task. • Spotted and reported potential hazard. • Methodically checked and rechecked, throughout the task, he was constantly committed to the completion of this task. • Documentation was completed with a high level of accuracy, reflecting the comprehensive alternator output tests carried out.

Task 4 Alternator

S. Hooks refitting alternator.



S. Hooks carrying out physical inspection of the alternator.



S. Hooks carrying out a current test using an amp clamp.

S. Hooks disconnecting vehicle battery

Declaration of Authenticity

Candidate name _____ Candidate number _____

Centre name _____ Centre number _____

Candidate:

I confirm that all work submitted is my own, and that I have acknowledged all sources I have used.

Candidate signature _____ Date _____

Tutor:

I confirm that all work was conducted under conditions designed to assure the authenticity of the candidate's work, and am satisfied that, to the best of my knowledge, the work produced is solely that of the candidate.

Tutor signature _____ Date _____

Has the candidate received any additional support in the production of this work?

Tick Yes ☐ No ☐

If the answer is yes, give details below and on a separate sheet if necessary.

Note: Where the candidate and/or tutor is unable to, or does not confirm authenticity through signing this declaration form, the work will not be accepted at moderation and a mark of zero will be given. If any question of authenticity arises, the tutor may be contacted for justification of authentication.

Section 5 Principal Moderator's guidance, hints and tips.

This practise marking material has been produced to be used for standardisation activities and for centre guidance in the early years of the qualification. The marks allocated to each learner are in accordance with the Principal Moderator marks and show the standard set for this qualification.

To make holistic judgments, it is necessary to ensure that all tasks are completed and submitted prior to assigning any final marks. Practical tasks are not marked independently of written submissions so ensure that all tasks have been completed before assigning any marks.

When judging ephemeral performances / practical skills, centres must ensure that the evidence is in a format visible to the marker/moderator and gives sufficient qualitative detail to aid moderation. Observers and markers should ensure their notes are comprehensive, employing key words written in the marking grids and describing how, where or why the work is good or better. Along with this they should ensure that any verbal questions are documented and that weaknesses / mistakes as well as strengths / exemplary practice are noted on the PO form. These notes will enable the centre marker and the moderator get a feel for the practical skills shown by each individual on the synoptic assessment day/s and will assist in allocation of marks and rank ordering.