T Level Technical Qualification in Engineering and Manufacturing – Maintenance, Installation and Repair

8712-312 Mechatronic

Grade standard exemplification material

Pass - summer 2024

Version 1-0

Version and date	Change detail	Section	Question
v1-0 Oct 2024			

Contents

Introduction

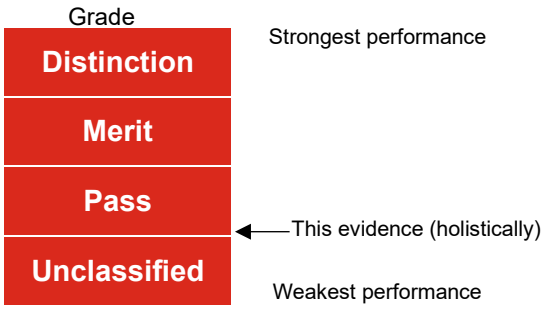
Summer 2024 Results

This document is aimed at providers and learners to help understand the standard that was required in the summer 2024 assessment series to achieve a pass grade for the 8712-312 Maintenance, Installation and Repair in Mechatronic Engineering Occupational Specialism (OS).

The grade standard exemplification evidence (Grade SEM) provided for the pass grade displays the holistic standard required across the tasks to achieve the pass grade boundary in the summer 2024 series.

The aim of these materials is to provide examples of knowledge, skills and understanding that attested to pass standard (threshold competence) in summer 2024. It is important to note that in live assessments a candidate's performance is very likely to exhibit a spikey profile and standard of performance will vary across tasks.

The Occupational Specialism is graded Distinction, Merit, Pass or Unclassified.



The pass grade boundary is based on a synoptic mark across all tasks. The materials in this Grade SEM are separated into two sections as described below. Materials are presented against a number of tasks from the assignment.

Tasks

This section details the tasks that the candidate has been asked to carry out. What needs to be submitted for marking and any additional evidence required including any photograph/video evidence. Candidate evidence that was or was not included in this Grade SEM has also been identified within this section.

In this Grade SEM there is candidate evidence from:

Task 1 Plan and prepare the maintenance activities
Task 2 Perform and record the maintenance activities
Task 3A Review and report the maintenance activities
Task 3B Peer review
Task 4 Complete Handover

Candidate evidence

This section includes exemplars of candidate work, photographs of the work in production (or completed) and practical observation records of the assessment completed by provider assessors. This was evidence that was captured as part of the assessment and then internally marked by the provider assessor.

The Occupational Specialism brief and tasks can be downloaded from here.

Important things to note:

- We discussed the approach to standard setting/maintaining with Ofqual and the other awarding organisations before awarding this year. We have agreed to take account of the newness of qualifications in how we award this year to recognise that students and teachers are less familiar with the assessments (grading-arrangements-for-vtqsand-technical-qualifications-within-t-levels-in-the-academic-year-2023-to-2024), whilst also recognising the standards required for these qualifications.

- The evidence presented, as a whole, was sufficient to achieve the pass grade. However, performance across the tasks may vary (i.e. some tasks completed to a higher/lower standard than pass grade).

Grade descriptors

To achieve a pass (threshold competence), a candidate will be able to:

Interpret technical information, plan, assess risk and follow safe working methods appropriately when applying practical skills to an acceptable standard to satisfy the requirements of the brief.

Adequately prepare working areas to allow safe working, acknowledging potential risks and applying acceptable housekeeping techniques during tasks.

Demonstrate basic technical skills for maintaining, installing and repairing and diagnosing components, assemblies and sub-assemblies in line with the requirements of the brief.

Demonstrate adequate skills using tools and equipment for mechatronic maintenance, installation and repair, ensuring safe isolation, removal and replacement of components.

Demonstrate basic knowledge and understanding of the principles and processes required for disassembly, repair, configuration and reassembly of mechatronic systems, ensuring that most tolerances and tightening torques are in-line with specification.

Work safely showing an understanding and suitable level of awareness in the preparation and application of processes, selection and use of tools, equipment, materials and components for maintenance, installation and repair activities.

Mostly use industry and technical terminology accurately across different communication methods with some consideration of technical and non-technical audiences.

Task 1 Plan and prepare

Assessment number (eg 1234-033)	8712-312
Assessment title	Mechatronic Occupational Specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	1
Evidence title / description	Method Statement List of requirements and resources, including justifications for the selections Risk Assessment
Date submitted by candidate	DD/MM/YY

Task 1

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components

You must analyse the brief and technical information about the system provided and then:

- create a list of the requirements and resources for the maintenance activities, justifying your selections. This should include:
    - all necessary technical information to confirm the type, scope and requirements of the activity
    - tools and equipment
    - materials, components and consumables
    - wastage and disposal requirements
    - time needed to carry out the activity
    - fault diagnosis/detection methods to be used
    - any access requirements
- produce and complete a risk assessment
- produce a method statement.

Additional evidence of your performance that must be captured for marking:
none

Candidate evidence

Task 1 – Method Statement

Firstly, PPE should be put on including safety boots, overalls and rubber gloves are recommended. standard maintenance should be carried out this includes checking over the belt for damage, listening out for squeaking. Applying lube to the bearings. From here every aspect should be looked over and checked for faults. If the fault seems to be electrical the best place to start would be to check the complete system over with a multi meter to make sure the entire system is getting power, this can be done more efficiently my recognising the area the fault is in. For example, the tall weights aren't being pushed by the cylinder this would tell you that it is probably the sensor not working properly, you could start by checking if the RED LED lights up when the weight is on the conveyor, if it doesn't light up the system should be put not manual override so that you can check the bulb does actually work. If it does the problem is likely with the sensor not recognising the weight, so it would need replacing. To replace the sensor firstly the system should be stopped from running. The belt would have to be loosened this is done by the undoing the Jack Screws using a Hex key once the belt has slack it can be moved to the side so the sensor can be taken out and replaced using a Screwdriver. Once the new sensor is in the belt can be put back over and tightened to the correct tension.

If the RED LIGHT does light up this means, it is not the sensor that is causing a problem and is the cylinder this could still be an electrical issue. The wiring to set it off may not be connected properly, this should be checked. If it is still not working, it may be that the pneumatic system has a leak, and the cylinder is not getting the pressure it needs this is unlikely and can be checked by listening closely. If the cylinder is still not working, it may be seized from here it should be replaced.

The inconsistent conveyor belt speed could be caused by many things and there is no way to tell other than process of elimination. Firstly, its best to start with the easy tasks, this would be checking for debris build up this could cause inconsistency as it would make the belt get caught on it and slip. If the tension is wrong, it could cause the belt to slip as well.

Health and safety

It is important to follow health and safety, the main thing to look out for is getting your hands trapped in the conveyor system.
It is important to dispose everything correctly, electronics go in the WEEE bin, any oil needed to be disposed of carefully

Task 1 – Resource List

A list of requirements and resources, including justification for the selections

Tools/equipment and consumables	Quantity	Why it is needed
Pneumatic pressure source	1x	Makes all the pneumatic aspects of the system work, by adding air pressure. Takes around 5 minutes to pump up and connect.
Pneumatic cylinder	3x	Pushes the weights, activated by the sensors, spares are needed as they could break. Would take about 5 minutes to replace.
Hex keys	n/a	Used to tighten and adjust the belt.
Screwdrivers	n/a	Used to adjust the sensors, remove wiring.
Motors	2x	Drives the belt, they could be faulty
Sensors	4x	Sends a signal to the cylinder, set off by weights. They could be faulty. Need to be deposited in the WEE bin, anything Electonics needs to be.
Multi-meter	1x	Used to follow where has and has not got power. Needed for fault finding.
Terminal rail	1x	The wiring connects to this, could be faulty.
Laptop	1x	Used to load up the program.
Ethernet cable	1x	Connects the laptop to the system.
Screws	n/a	All sorts of spare screw / bolts etc are recommended.
Lube/grease	n/a	The bearings may need it. This must be disposed of correctly.
Tray	n/a	To put all the removed parts in so nothing is lost.
PPE	n/a	Overalls and safety boots are required. Rubber gloves are recommended.
Mechanical tensioning idler device	n/a	Within the belt loop, used to maintain correct tension.
LEDs		RED LED used to tell the user a tall weight passed the conveyor. GREEN LED used to tell the user a short weight is on the conveyor. They will both flash if misalignment is detected.

Task 1 – Risk Assessment

Hazard	Risk	Likleyhood	Rating
Getting caught in the conveyor system.	Whilst working on the conveyor the user could get their hand caught, in this case the belt is small. It still causes a risk of injury though. Hair or loose clothing could also get caught.	3	2
Electrical issue, e.g. exposed wire.	An electrical problem could cause many issues. Firstly, an electric shock from an exposed cable. It may not be earthed correctly. A fire could also be caused especially on a smaller system as overheating is possible.	1	3
Trips, falls etc.	When working on the system the user may drop something and trip over it. Or trip over the pneumatic pressure source.	2	2
Getting cut.	The user may cut themselves when removing bolts or parts for example.	2	3

Task 2 Perform and record the maintenance activities

Assessment number (eg 1234-033)	8712-312
Assessment title	Mechatronic Occupational Specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	2
Evidence title / description	Completed test record sheets Annotated method statement Assessor observation (Practical Observation Form) Photographic evidence
Date submitted by candidate	DD/MM/YY

Task 2

Assessment themes:

- Health and safety
- Planning and preparation
- Systems and components
- Working with faults
- Reviewing and reporting

You must:

- prepare the work area for the maintenance activities
- perform the maintenance activities in accordance with the method statement and planning documents produced in Task 1. This should include:
    - decommissioning and inspection of the system
    - disassembly and reassembly of the system
    - diagnosing, and recording faults within the system, including carrying out appropriate tests
    - repairing the faults and replacing components as required
    - safely using the appropriate tools and equipment
    - recommissioning of the system
    - re-instating the work area
- record the maintenance activities, to include:
    - producing and completing test record sheets
    - updated maintenance records and control documents
    - annotating the method statement, including any recommendations for further investigation if required.

Additional evidence of your performance that must be captured for marking:
none

Candidate evidence

Task 2 – Test Record Sheets

	What fault was found	How to repair fault
Ran the system and looked to see if anything was moving incorrectly. Also, could been found by listening as it squeaked. And as it was rubbing it was vibrating so could have been found by feeling.	The belt was slightly to one side. This caused it to run inconsistently. (if left to get worse it could snag and jam)	The roller had to be undone to give the belt enough slack to move it level. To do this firstly the tensioner needs to be removed, simply by just pulling it out. Then the 2 hex head bolts holding in the roller need to be removed, this will give the belt all the slack it needed to realign it into the centre. Then to put the roller back in it must be held up so it's in line with the bolt holes, and the hex heads can be put back in. The 2 bolts should be tightened evenly.
Continuity test using a multimiter.	This didn't find any faults, it was all okay.	n\a
Visually inspected the wiring system.	1. A wire coming from 24vDC – 3. Wasn't connected to anything. 2. There was a whole wire missing from the Analog Motor to the speed control.	1.The wiring diagram was checked, and it needs to be connected to E (enable conveyor). The flat head screw needs to be undone so that the cable can be put in, then tighten back up. 2. Although it was on the wiring diagram but not on the system this turned out to not be a fault.
Ran the system to see if the weights were Sensores and pushed at the right timing.	The cylinder fired to early and blocked the weights rather than pushing them.	Firstly, finding out what was causing this. It could be an electrical or mechanical issue. When in manual override the cylinders fire instantly when set off, this means it's not a mechanical issue. The sensors also recognise quickly so they're not faulty. By listening you could hear a slight air noise, the connection to cylinder 1 was lose so the system wasn't holding air. I tightened the connection, and it made the timing slightly better but still not perfect. The cylinders are in the correct position, in comparison to the baskets that catches the weights. So, the only other thing it could be is a programming problem.

The system was run to see if it done everything properly. **By visually looking.**	The sensors (misalignment relay) at the end of the conveyor to see if a weight is too close to the side don't get set off, even when a weight directly touched it.	Firstly, I checked if they even worked by pressing it by hand, this did set it off. So, they do work they're just not sensitive enough. There is no way to adjust the physically or move them so they would either need replacing to see if that made a difference. Or they could be adjusted on the program.

Task 2 – Annotated Method Statement

Firstly, PPE should be put on including safety boots, overalls, safety glasses and rubber gloves are recommended. standard maintenance should be carried out this includes checking over the belt for damage, listening out for squeaking and feeling for inconsistent vibrations. Applying lube to the bearings. From here every aspect should be looked over and checked for faults. If the fault seems to be electrical the best place to start would by doing a continuity test on the complete system over with a multi meter to make sure the entire system is getting the correct voltage, this can be done more efficiently my recognising the area the fault is in. For example, the tall weights aren't being pushed by the cylinder this would tell you that it is probably the sensor not working properly, you could start by checking if the RED LED lights up when the weight is on the conveyor, if it doesn't light up the system should be put not manual override so that you can check the bulb does actually work. If it does the problem is likely with the sensor not recognising the weight, so it would need replacing. To replace the sensor firstly the system should be stopped from running. The belt would have to be loosened this is done by the undoing the Jack Screws using a Hex key once the belt has slack it can be moved to the side so the sensor can be taken out and replaced using a Screwdriver. Once the new sensor is in the belt can be put back over and tightened to the correct tension.

If the RED LIGHT does light up this means, it is not the sensor that is causing a problem and is the cylinder this could still be an electrical issue. The wiring to set it off may not be connected properly, this should be checked. If it is still not working, it may be that the pneumatic system has a leak, and the cylinder is not getting the pressure it needs this is unlikely and can be checked by listening closely. If the cylinder is still not working, it may be seized from here it should be replaced.

The inconsistent conveyor belt speed could be caused by many things and there is no way to tell other than process of elimination. Firstly, its best to start with the easy tasks, this would be checking for debris build up this could cause inconsistency as it would make the belt get caught on it and slip. If the tension is wrong, it could cause the belt to slip as well.

This is just some of the many issues that could be uncovered.

Health and safety

It is important to follow health and safety, the main thing to look out for is getting your hands trapped in the conveyor system. Also, tripping is a possible hazard.

It is important to dispose everything correctly, electronics go in the WEEE bin, any oil needed to be disposed of carefully

Task 2 – Assessor Observation – Practical Observation Form

8712-312 Maintenance Engineering Technologies: Mechatronic - summer 2024

Candidate Name	**Candidate number**
Provider name	**Date**

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

This observation must cover	Assessor observation should include:	Assessment Themes
Work area preparation	• The work area preparation.	• Health and Safety • Planning and Preparation • Systems and Components
Service and maintenance activities	• decommissioning and inspection of the system • disassembly and reassembly of the system • diagnosis and recording of faults within the system, including carrying out appropriate tests • repairing the faults and replacing components • use of tools and equipment • recommissioning of the system • re-instating the work area.	• Health and Safety • Planning and Preparation • Systems and Components

Notes – *detailed, accurate and differentiating notes which 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.*
Work area preparation: -Ensured all electrical isolations are completed -System reseted meaning sensor and alarm reset as well

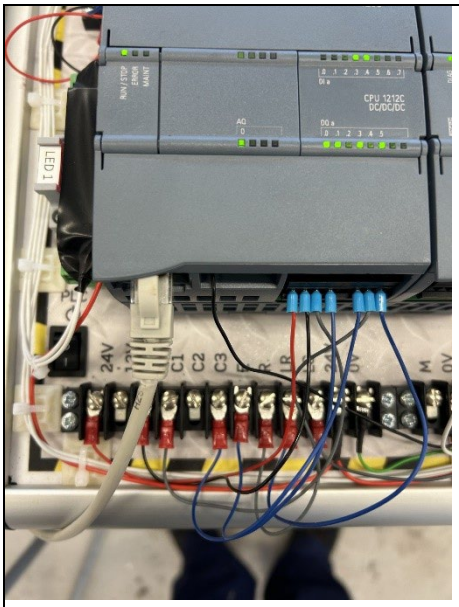
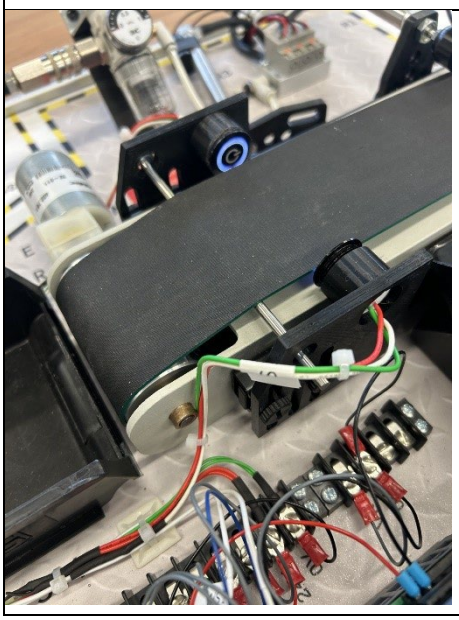
Maintenance activities:

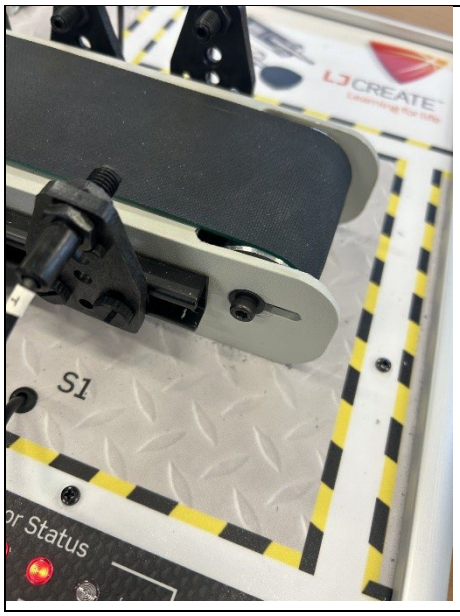
- Decommissioning and inspection of the system
- Disassembly and reassembly of the system
- Diagnosis and recording of faults within the system, including carrying out appropriate tests
- Repairing the faults and replacing components
- Use of tools and equipment
- Recommissioning of the system
- Re-instating the work area.

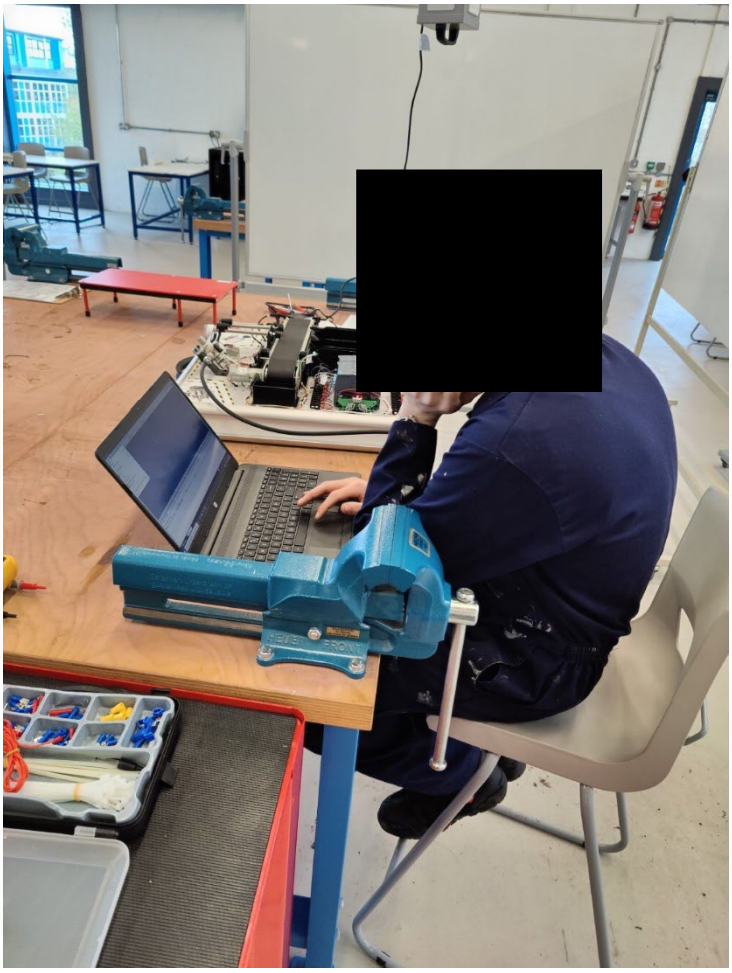
-looking at manual to double check all connections
-using PLC software to double check PLC programming
-making good use of pen and paper to make notes
-begun taking off idler without isolating system using correct tools however
-now isolated and continue to work
-motor fault found and reconnected the cable
-continuing with activities, struggling with reinstalling belt idler
-small parts left on top of rig would easily be knocked or misplaced
-successfully remounted idler thus correcting idler misalignment
-moving into testing phase and making notes on how system is operating
-system is now working correctly
-moving back to the laptop to check PLC program
-thus far activities have been stumbled through and lacks organisation, performance has been that of a low level student
-completed all tests to ensure system is working correctly including monitoring on the laptop of the PLC program.

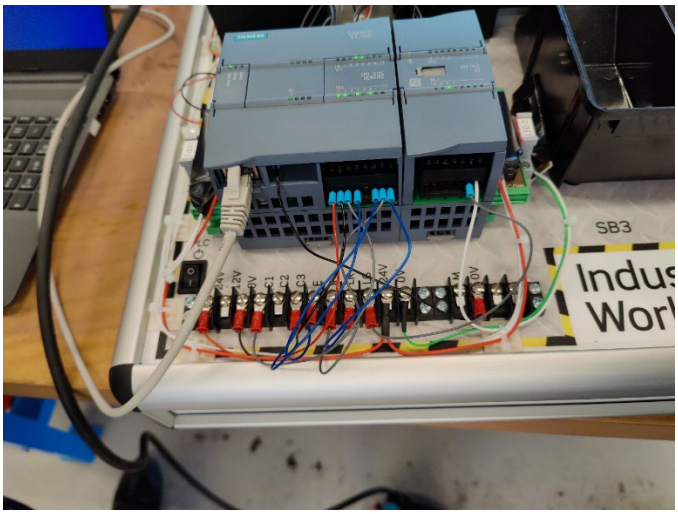
Internal assessor signature	Date
xxx	xxx

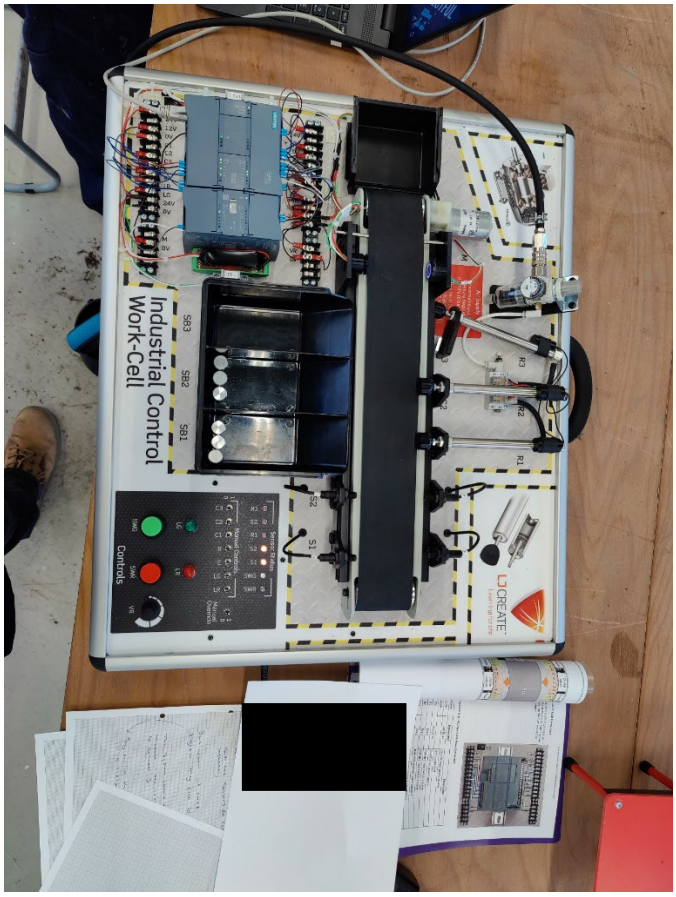
Task 2 – Photographic Evidence

	This is the PLC with the wire coming from 24vDC – 3 that wasn't connected to anything, it has been connected to E (enable conveyor).
	This is the conveyor after I removed the tensioner and roller to realign it as it wasn't level.

	This is another look at the belt being centered.

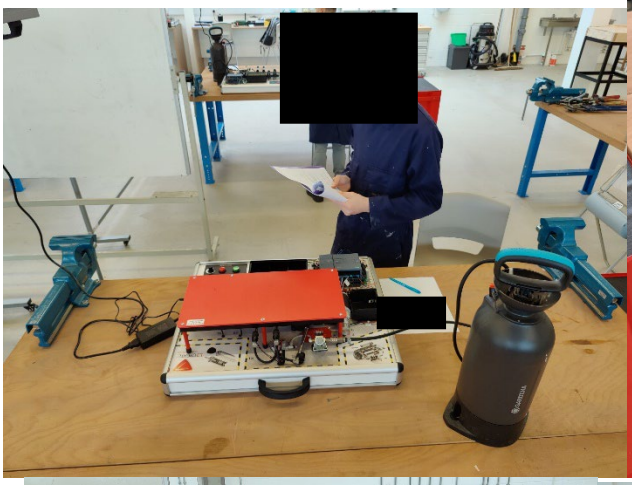


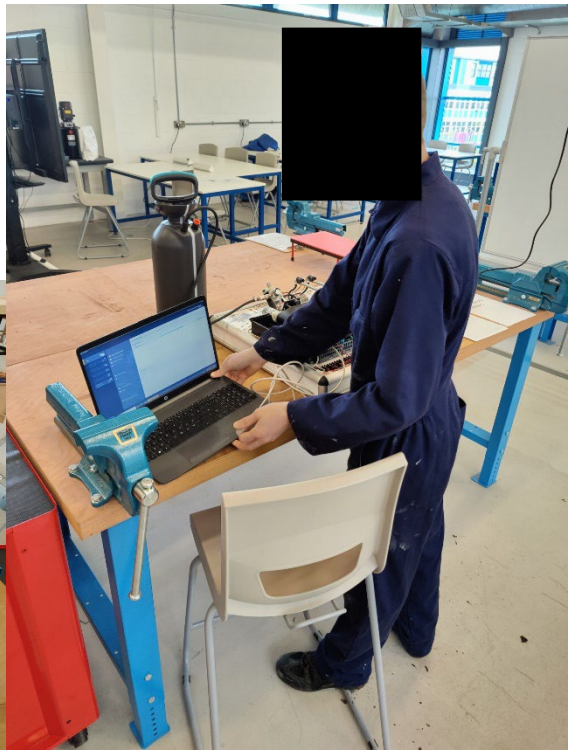

SB3

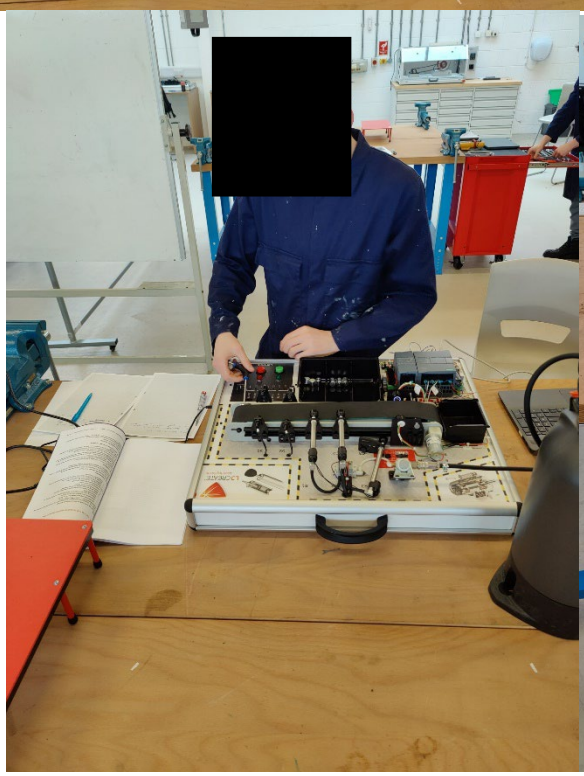

Industrial Control
Work-Cell
Controls
CREATE

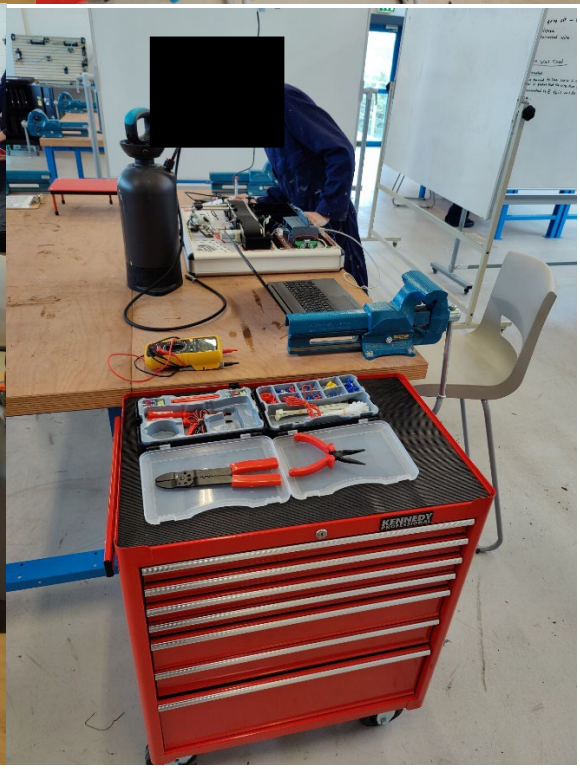

KENNEDY
PROFESSIONAL

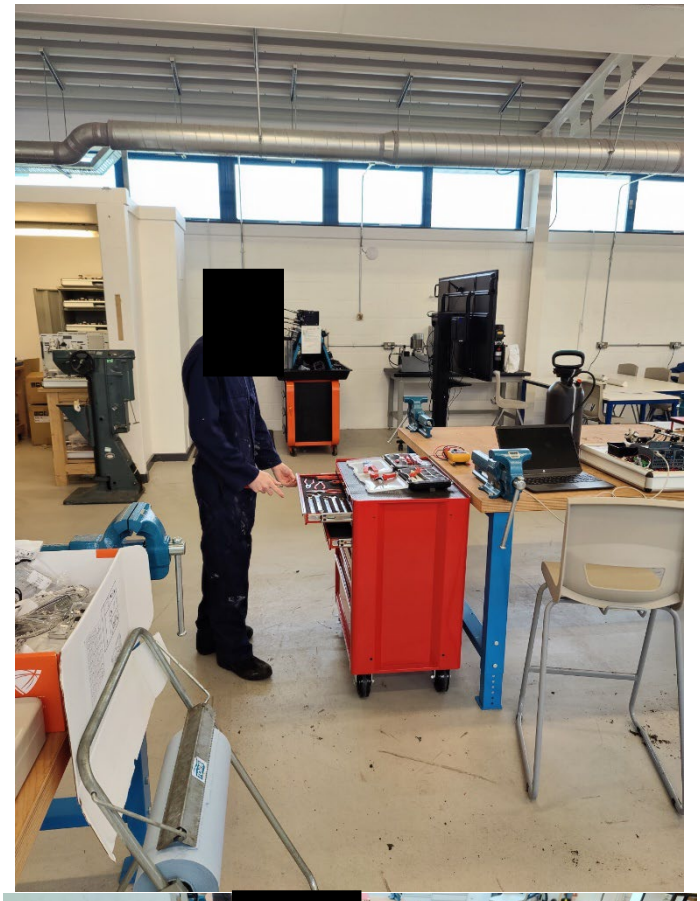

Industrial Control
Work-Cell

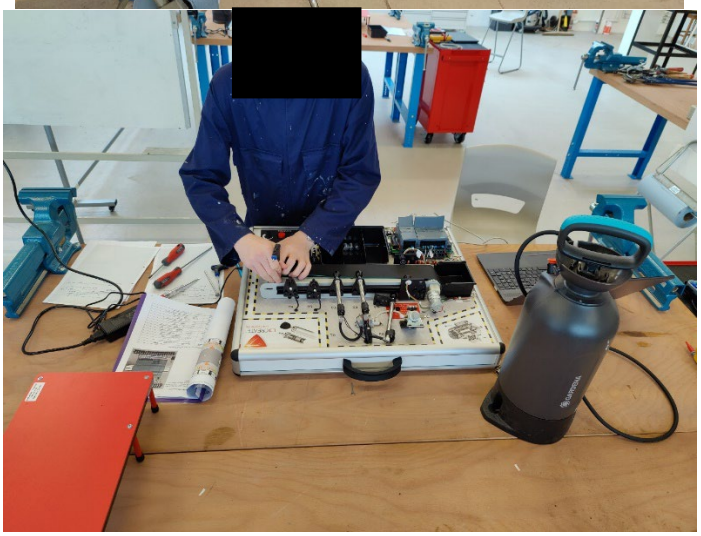


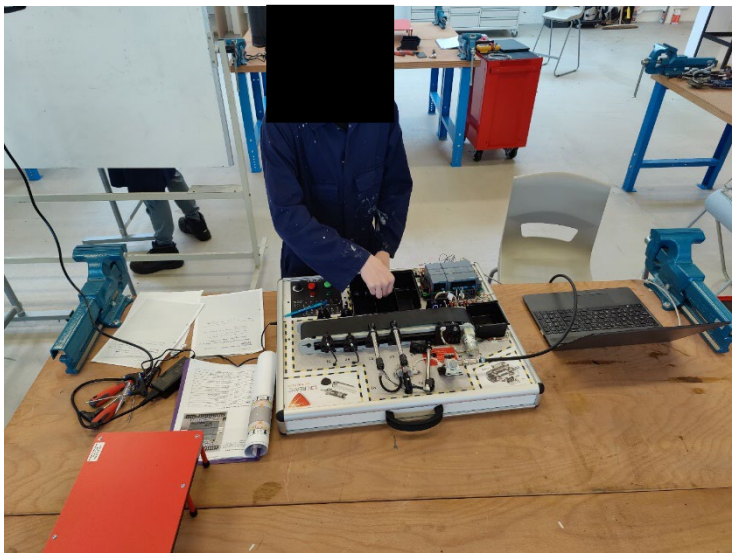





KENNEDY







Task 3A Review and report the maintenance activities

Assessment number (eg 1234-033)	8712-312
Assessment title	Mechatronic Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	3A
Evidence title / description	Technical Report Revised Maintenance Schedule
Date submitted by candidate	DD/MM/YY

Task 3A

Assessment themes:

- Health and safety
- Systems and components
- Reviewing and reporting

You must:

- produce a technical report for the supervisor. This should typically be 850 words and include:
    - a review of the maintenance activities, including fault diagnosis/detection techniques and suggestions for future improvements
    - the faults found and how they were rectified
    - any outstanding faults, including recommendations that may require attention before the next planned maintenance activity according to the current maintenance schedule
    - reporting of stock levels and waste disposal
- produce a revised maintenance schedule from your activities and findings, this should include:
    - recommendations for future planned maintenance, including justifications
    - due date of next maintenance activity.

Additional evidence of your performance that must be captured for marking:
none.

Candidate evidence

Task 3a – Technical Report and Revised Maintenance Schedule

Review and report the maintenance activities

Fault diagnosis/detection techniques -

Continuity Test using a multi meter, this test is needed as it's the best way to see if the whole system is getting powered correctly.

Using your senses is another good way to find faults. Listening, Feeling and Seeing.

An improvement to the way the maintenance is done- Could be that fault diagnosis should be done more often so that faults are found as they come up rather than when they start causing serious issues.

The faults that were found include-

- The pistons fired too soon. This was diagnosed by watching the system as it ran, to fix it the pistons needed to be moved further down the conveyor, so they didn't fire too early. There were a couple of things that could have caused this that had to be checked to diagnose the real cause. This includes their being faulty, the programing being incorrect.
- The belt wasn't level, it was pulled to one side. This was diagnosed as it was making a squeaking noise, you could also see it wasn't level and it was vibrating. If this fault was left to get worse it would have been a lot more serious, as the belt could get to the point of jamming, and this could damage the motors amongst other things. This was fixed by shutting the system down and taking at the motor to give the belt plenty of slack, then the belt could be moved so that it is level and then the motor can go back in.
- There was a disconnected wire from 24vDC – 3. This was diagnosed by visually inspecting the wiring system. The wire was supposed to be connected to E (enable conveyor). This could have caused the conveyor to stop and finding it before that happened saved a lot of time and resources.

Outstanding faults

- The sensors (misalignment relay), this was diagnosed by running the system to see if it done everything properly by visually looking. This sensor is at the end of the conveyor to see if a weight is too close to the side, but it didn't get set off, even when a weight directly touched it. A few checks were carried out to see what caused this, but they were never fixed, as they worked but weren't sensitive enough.

There wasn't any stock used or waste made during this Maintenace task.

Maintenance schedule

The maintenance is done yearly the records show 2022 – 2023 – 2024, so the next one should be 2025 in around May/April.

In the future alongside the annual maintenance there should be basic checks done every month. This will make it possible to diagnose and repair problems as soon as they arise, this would lead to less down time and eliminate the possibility of a small issue getting bigger and causing a lot of damage.

Service no	Date	Maintenance Type	Checked By	Repair Details	Signature
01	05/24	Routine	OC	Realign belt Correct wiring	xxx

Task 3B Peer review

Assessment number (eg 1234-033)	8712-312
Assessment title	Mechatronic Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	3B
Evidence title / description	Completed peer review forms Candidates amended document following peer review, including justifications (revised method statement)
Date submitted by candidate	DD/MM/YY

Task 3B

Assessment themes:

- Health and safety
- Systems and components
- Reviewing and reporting

You must:

- carry out a peer review on two annotated method statements provided by the assessor. You must consider the following:
    - *how well does the method statement enable planned maintenance activities to be performed and recorded over time?*
    - *how appropriate is the method statement and why?*
    - *what are the implications to the business of the proposed method statement?*
    - *how could the method statement be optimised/improved?*
- write up feedback for each of the annotated method statement produced by other candidates on separate peer review forms
- update your own annotated method statement following feedback from the peer review. Any updates need to include justifications for these changes and any changes not made will be reviewed in the handover.

Additional evidence of your performance that must be captured for marking:
none.

Candidate Evidence

Task 3b - Peer Review Form

Assessment ID	Qualification number
MIR Mechatronic Occupational Specialism	8712-312
Candidate name	**Candidate number**
xxx	xxx
Provider name	**Provider number**
xxx	xxx
Date	**Series**
08/05/2024	Summer 24

Question	Feedback
How well does the method statement enable planned maintenance activities to be performed and recorded over time?	It was in a good set order in how he's written it, as he's mentioned PPE at start, then gone on about the potential faults and then at the end about the legislations and how waste should be put awa
How appropriate is the method statement and why?	I think that it's quite appropriate in some respects as he's mentioned about the potential faults that can happen but hasn't added what the faults are after the maintenance has been performed. He has mentioned PPE, WEEE but not about the health and safety at work act.
What are the implications to the business of the proposed method statement?	The only cost is to pay the engineer for the working hours, as no replacements were needed for the system.
How could the method statement be optimised/ improved?	I think that it can be improved by setting it in specific paragraphs, like one for the PPE and regulations which is before the maintenance, one for the potential problems which is during the maintenance, and then one for after the maintenance has been performed.

	I also think that when he's doing his annotating, he should do it under the set paragraph that I suggested and add more information to it as well. Needs to make a point that there's potential faults and then when annotating he should add what the actual problems were.

Task 3b – Revised Method Statement

Pre-maintenance

Firstly, PPE should be ready and checked for damage this includes, steel toe cap boots, overalls, safety glasses and gloves are recommended. If the PPE items are undamaged. The next thing to think about should be Health And Saftey so the maintenance task can be done saflaey. it is important to follow health and safety, the main thing to look out for is getting your hands trapped in the conveyor system. Also, tripping is a hazard. It is important to dispose everything correctly, electronics go in the WEEE bin, any oil needed to be disposed of carefully. And it's important to locate the emergency stops etc.

Once ready to start the maintenance, basic checks should be done first because it cuts down on downtime as it would only be off for a few hours' maximum. Basic maintenance includes checking over the belt for damage, listening out for squeaking and feeling for inconsistent vibrations. Applying lube to the bearings. From here every aspect should be looked over and checked for faults. If the fault seems to be electrical the best place to start would by doing a continuity test on the complete system over with a multi meter to make sure the entire system is getting the correct voltage, this can be done more efficiently by recognising the area the fault is in.

Possible issues that could be found

For example, the tall weights aren't being pushed by the cylinder this would tell you that it is probably the sensor not working properly, you could start by checking if the RED LED lights up when the weight is on the conveyor, if it doesn't light up the system should be put not manual override so that you can check the bulb does actually work. If it does the problem is likely with the sensor not recognising the weight, so it would need replacing. To replace the sensor firstly the system should be stopped from running. The belt would have to be loosened this is done by the undoing the Jack Screws using a Hex key once the belt has slack it can be moved to the side so the sensor can be taken out and replaced using a Screwdriver. Once the new sensor is in the belt can be put back over and tightened to the correct tension.

If the RED LIGHT does light up this means, it is not the sensor that is causing a problem and is the cylinder this could still be an electrical issue. The wiring to set it off may not be connected properly, this should be checked. If it is still not working, it may be that the pneumatic system has a leak, and the cylinder is not getting the pressure it needs this is unlikely and can be checked by listening closely. If the cylinder is still not working, it may be seized from here it should be replaced.

The inconsistent conveyor belt speed could be caused by many things and there is no way to tell other than process of elimination. Firstly, its best to start with the easy tasks, this would be checking for debris build up this could cause inconsistency as it would make the belt get caught on it and slip. If the tension is wrong, it could cause the belt to slip as well. This is just some of the many issues that could be uncovered.

Post-maintenance

The machine should be powered up and ran to see if all the issues are repaird. All tools must be tidied away

Task 4 Complete Handover

Assessment number (eg 1234-033)	8712-312
Assessment title	Mechatronic Occupational specialism

Candidate name	<first name> <surname>
City & Guilds candidate No.	ABC1234

Provider name	<provider name>
City & Guilds provider No.	999999a

Task(s)	4
Evidence title / description	Handover Documentation Assessor observation of handover meeting (Practical observation form)
Date submitted by candidate	DD/MM/YY

Task 4

Assessment themes:

- Health and safety
- Reviewing and reporting

You must now hold a meeting with the line manager to return to service and complete handover procedures, including:

- demonstration of system functionality
- confirmation of work completed
- amended method statement and how you addressed peer review feedback, including any suggested changes that were not made and why
- appropriate handover documentation.

Additional evidence of your performance that must be captured for marking:
none.

Candidate Evidence

Task 4 – Handover Document

How The System Works

- It is a conveyor belt , that can recognise 2 different sized products using sensors.
- It puts both products into different trays.
- It has a safety sensor that recognises if a product is missed.
- The work needed was completed between 25/04/24 - 03/05/24.

Method Statement

I got told by my peers that my method statement didn't have enough structure, so I altered it and seperated it into paragarphs to make it easier to read.

I also added more information as I was told it lacked curtain important aspects and didn't go into enough depth.

Date	Completed By	Work Done	Faults Found	Were Faults Fixed	Comments
25/04/2024	O C	Routine Maintenance	The Belt Needed Realigning	Yes	The belt was not in the centre , the tensioner and motor had to be removed. It was Then made level and the motor and tensioner went back on.

25/04/2024	O C	Routine Maintenance	Wiring Need To Be Corrected	Yes	There was a cable coming from 24vDc that needed to be connected to 'enable conveyor'
25/04/2024	O C	Routine Maintenance	Cylinder Firing To Early	Yes	The piston was to close to the sensors and needed to be moved slightly further away
25/04/2024	O C	Routine Maintenance	Misalignment Relay , Not Sensitive Enough	No	It will need replacing and I didn't have one to replace it with.

Task 4 – Practical Observation Form

8712-312 Maintenance Engineering Technologies: Mechatronic - summer 2024

Candidate Name	**Candidate number**
xxx	xxx
Provider name	**Date**
xxx	10/05/24

Complete the table below referring to the relevant marking grid, found in the assessment pack.

Do not allocate marks at this stage.

This observation must cover	Assessor observation should include:	Assessment Themes
Handover	• the handover of the work completed.	• Health and Safety • Reviewing and Reporting

Notes – *detailed, accurate and differentiating notes which 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.*
Handover -good explanation of the system -good explanation of the peer review and how they were incorporated -faults explained and how each was rectified that was written in the handover document -overall performance during handover is that of a mid level student

Internal assessor signature	**Date**
xxx	xxx

Get in touch

The City & Guilds Quality team are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

Should you require assistance, please contact us using the details below:

Monday - Friday | 08:30 - 17:00 GMT

T: 0300 303 53 52

E: **technicals.quality@cityandguilds.com**

W: **http://www.cityandguilds.com/tlevels**

Web chat available **here**.