



T Level Technical Qualification in Engineering and Manufacturing – Manufacturing, Processing and Control

8713-331 Fitting and Assembly **Technologies**

Grade standard exemplification material

Pass - summer 2024





Version 1-0

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

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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 8713-331 Fitting and Assembly Technologies 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 Planning Task 2 Production Task 3A Quality review Task 3B Evaluation and recording Task 3C 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 information, plan, assess risk and follow safe working methods when applying practical skills to an acceptable standard in response to the requirements of the brief.

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

Demonstrate the basic technical practical skills in cutting, shaping, fitting and drilling to install components that are in line with industry standards and meet the requirements of the brief.

Demonstrate adequate ability to follow procedures to produce or maintain working components.

Demonstrate basic knowledge and understanding of the principles and processes required for fitting and assembly activities.

Work safely showing an understanding in the selection and use of relevant tools and equipment and demonstrate a basic awareness of straightforward preparation and application processes within the working environments for cutting, shaping, fitting, drilling, assembly and commissioning activities.

Identify causes of problems or common issues related to production control, operating procedures and quality control and have some knowledge and skills in how to rectify them.

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

Task 1 Planning

Assessment number (eg 1234-033)	8713-331
Assessment title	Fitting and Assembly Technologies Occupational Specialism
Candidate name	<first name=""> <surname></surname></first>
City & Guilds candidate No.	ABC1234
Provider name	<provider name=""></provider>
City & Guilds provider No.	999999a

Task(s)	1
Evidence title / description	Resource list with justifications
	Completed risk assessment
	Method statement with justifications
	Quality check sheet template
Date submitted by candidate	DD/MM/YY

Task 1

Assessment themes:

- Health and safety
- Planning and preparation
- Production
- Quality review and evaluation

You must:

- produce a resource list
- produce a risk assessment
- produce a method statement
- produce a quality check sheet (for use in task 3A)
- carry out calibration checks on measurement equipment

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

N/A

Candidate evidence

Resource List

Measuring and marking out equipment – callipers, DTI clock gauge, rules, tape, scribe, protractor and micrometer. (all with calibration certificates)

COSHH data sheets.

Calliper to be used to measure the width of the material.

Protractor to measure out and mark the angle on the gauge.

Rule to measure the length of the material.

Metal Files to waste material by hand.

Ball peen hammer to cold rivet the gauge together.

Mill to obtain the correct radius around the edge of the materials.

Radius gauge to measure the radius on the material.

Vernier Calliper calibration results:

Results				
Slip Gauge Size	Measured on IM8040	Measured on Vernier	Units	Pass
2	1.999	1.998	mm	Yes
50	49.996	50.00	mm	Yes
100	99.994	100.02	mm	Yes

Micrometer calibration results:

Results				
Slip Gauge Size	Measured on IM8040	Measured on Vernier	Units	Pass
2	1.999	1.998	mm	Yes
20	19.999	19.998	mm	Yes

Risk Assessment

Risk	Severity	Chance of occurrence	Cause	Mitigation
Cutting yourself	Low-Medium	Medium	Sharp tools, Improper usage of tools, Burs and sharp edges of material.	Make sure to use tools with the way they are meant to be used, and discard of any burs and sharp edges on material.
Burns	Low-Medium	Medium	Hot swarf being flung from tool- pieces in the machines.	Wear long sleeved clothing and proper PPE to ensure that you will not get burnt by swarf.
Dropping heavy object's	High	Medium	Not carrying an object properly/not properly secured.	Make sure to have a tight grip on the object you are carrying to ensure you do not drop it, always check to see if the material is properly secured when you are working on it.
Dismemberment	Very High	Very Low	Improper care around the machines in the workshop can lead to this.	To ensure that this does not happen in the workshop, you must maintain

				proper care and always be careful around the machines, and follow all guidelines provided by the company.
Eye injury	Very High	Low	Lack of appropriate PPE being worn in the workshop.	Wear PPE in the workshop including goggles to keep your eyes safe from anything going wrong in the workshop.
Graze	Low	Medium	Misuse of a metal file.	Use metal file with care and properly.

Method Statement

I have been tasked with manufacturing a bevel gauge, so that it can be used in the production facilities to measure a new batch of components.

I am required to: manufacture a bevel gauge, quality test the gauge prior to use, finish all components with an anti-corrosive product prior to handover, produce a sample test piece with a marked 35-degree angle for quality checking, evaluate the processes and procedures used to produce the finished bevel gauge and present my findings to my supervisor in a handover meeting.

Quality Check Sheet

Component	Tolerances			
Divider	Width – 25mm ±0.25			
	Length – 30mm ±0.25			
	Thickness 3mm			
	Holes – 3 x Ø3.2			
Body	Width – 25mm ±0.25			
	Length – 100mm ±0.25			
	Radius – R12.5			
	Holes – 3 x Ø3.2 CSK to suit rivet			
	Hole – 1 x Ø5.2			
Body 2	Width – 25mm ±0.25			
	Length – 95mm ±0.25			
	Outer Radius – R12.5			
	Central Long Hole – Width 5.2mm Length 52.5mm Distance from the edge – 12.5mm			

Component	Dimension	Tolerance	Req	Act	Error	Instrument	Result
			Size	Suze		Used	

Divider	Width 25mm	±0.25	Width 25mm	23mm	N/A	
	Length 30mm	±0.25	Length 30mm	29mm	1MM	
	Holes 3 x Ø3.2			Ø3.2	N/A	
Body	Width 25mm	±0.25	Width 25mm	25mm	N/A	
	Length 100mm	±0.25	Length 100mm	99mm	1mm	
	Holes 3 x Ø3.2 CSK to suit rivet		3 x Ø3.2	Ø3.2	N/A	
	Hole 1 x Ø5.2		1 x Ø5.2	Ø5.2	N/A	
	Radius R12.5			R12.5	N/A	
Body 2	Width 25mm	±0.25	Width 25mm	25mm	N/A	
	Length 100mm	±0.25	Length 100mm	99.8mm	0.2mm	
	Radius R12.5		3 x Ø3.2	Ø3.2	N/A	
	Holes 3 x			R12.5	N/A	
	to suit rivet		1 x Ø5.2		N/A	
	Hole 1 x Ø5.2			Ø5.2		
Blade	Width 25mm	±0.25	Width 25mm	25mm	N/A	
		±0.25		91mm	4mm	

Length	Length			
95mm	95mm	R12.5	N/A	
Outer	Outer			
Radius	Radius			
R12.5	R12.5	5.2MM	N/A	
Central	5.2mm			
Slot Width				
5.2mm		52.5mm	N/A	
Length				
52.5mm	52.5mm			
Distance		8mm	4.5mm	
from the	12.5mm			
edge				
12.5mm				

Task 2 Production

Assessment number (eg 1234-033)	8713-331
Assessment title	Fitting and Assembly Technologies Occupational Specialism
Candidate name	<first name=""> <surname></surname></first>
City & Guilds candidate No.	ABC1234
Provider name	<provider name=""></provider>
City & Guilds provider No.	999999a

Task(s)	2
Evidence title / description	Functioning bevel gauge
Date submitted by candidate	DD/MM/YY

Task 2

Assessment themes:

- Health and safety
- Planning and preparation
- Production
- Quality review and evaluation

You must:

- prepare the work area
- produce the bevel gauge using both hand tools and workshop machinery to specification
- apply a suitable surface treatment to the finished components
- assemble the bevel gauge using the finished components
- reinstate the work area following the production of the bevel gauge.

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

- assessor observation to include:
 - \circ checks carried out before, during and after production
 - \circ $\,$ work area prior to, during and on completion of tasks
 - \circ preparation, application and usage of tools and equipment
 - o application of hand skills
 - o set up and use of workshop machinery.

Candidate evidence

Health and Safety (HS), Planning and Preparation (PP), Production (P), Quality, review and evaluation (QRE)

Task 2) ProductionWork area, prior to, during and on completion of production activities.Set 1 (Min 3 photos)((At least one photograph of each of the below)





a) Safe isolation procedures whilst wearing the correct PPE. (HS, PP, P)



a) Pre-use checks of appropriately selected tools and equipment/preparation of resources (PP)

P4 incomplete recording

c. the condition of the work area after the production activity has been completed, to include the checking and returning of tools and equipment to the correct storage area and waste disposed of correctly (HS, P).



Task 2) Production	Stages of production – setting up, marking out of materials, removal of
	material using equipment, application of surface treatment, finishing
Set 2 (Min 5 photos)	and assembly
	(At least one photograph of each of the below)









- a) Materials selected for production (P, QRE)
- P4 incomplete recording
- b) Pre-shaping and marking techniques adopted by the candidate to mark out each component using their selected equipment (P)



c) production methods and techniques (machining, fitting, assembly, testing) demonstrating industry standard e.g. deburring, datum edge (P)

P4 incomplete recording

d) In-production checks undertaken (checking for accuracy, faults, machine performance) (P)

P4 incomplete recording

e) Application of surface treatment (P).

P4 incomplete recording

Task 2) Production	Completed assembly.
	(At least one photograph of each of the below)
Set 3 (Min 2 photos)	

a) Showing the components assembled (P, QRE)



b) Quality of completed assembly (P, QRE).



Observation form producing the component

Setting up and preparing the materials, tools and equipment.

Candidate prepared himself to wear the appropriate PPe gear and, checked his work area for cleanliness and safety. All the equipment was checked for damage and that the measuring tools where calibrated prior to commencing the task.

A full risk assessment was carried out and the resource list checked. The machines being used in this task i.e. Pillar Drill and Milling mc were checked for correct operation, guards in place, and all controls functioning correctly.

Producing the components.

Candidate selected the correct material and checked against the drawing specification. Starting with the side arms datum edges were produced using engineers square and file before marking out holes, length with vernier height gauge. Hole positioned with centre punch and drilled; accordingly, vice securely clamped to drilling mc prior to carrying out the drilling operation. Holes countersunk to accept rivets on assembly.

Candidate ensured accuracy by drilling plates together to ensure holes where aligned, using vice and Mole grips.

Top holes drilled with one being tapped using an M5 tap, and lubricant. Candidate used file to rough out radii of ends and would complete on assembly.

The bevel blade was completed using a Milling mc and correct slot drill before the candidate formed the end using a hacksaw and combination square set at 45 degrees.

The last piece the candidate made was the brass insert and drill using side arm as a template. Correct bolt and nut selected by referring to the drawing specification and parts checked prior to assembly.

Utilising machinery

In preparation for using both a Pillar drill and Milling mc the candidate operated these macs safely and with due consideration to his colleagues. Correct speeds were chosen and each time his component was securely fixed to either bed when carrying out the machining function.

Candidate did check for damage and safe operation prior to use and reinstated both mcs to condition prior to carrying out these tasks.

Assembly

The candidate re checked he had all the components necessary to complete the assembly and made reference to the assembly drawing. They demonstrated good awareness of riveting by producing and secure assembly with minimum rivet heads on show but filling the countersunk holes.

Bolt and wing nut fitted and the blade was free to move within the assembly and all sides, ends filed to complete profile.

Health and Safety work area

The candidate worked in a clean and tidy area looking after his tools in a logical and orderly manner. The working area was checked using a risk assessment, all tools checked for damage and on completion of the task tools were returned to stores and area reinstated i.e. cleaned down.

At all times the candidate worked in appropriate PPe, did not communicate with others and worked in safe and efficient manner.

Commentary

Workshop skills were demonstrated by the candidate during all stages of this process. They showed a good understanding of engineering drawing specifications and how they applied practically to the task in hand.

A risk assessment was carried out within the workshop and their own specific area to identify any potential problems and danger.

The candidate chose the correct tools for each task and clearly showed they could use them safely and effectively.

A variety of hand tools and measuring equipment was used to mark out each individual component.

A good understanding of machine operation was clearly displayed by the candidate who securely locked his components to the respective beds, used all safety guards and chose the appropriate speeds.

The candidate regularly checked his work to ensure no build up of errors that would damage the final assembly.

At the end of the process the candidate had clearly demonstrated their skill level knowledge and practical ability to produce a high-quality product that met the stated specification parameters.

Engineering Assessor

24th April 2024

Task 3A Quality review

Assessment number (eg 1234-033)	8713-331
Assessment title	Fitting and Assembly Technologies Occupational Specialism
Candidate name	<first name=""> <surname></surname></first>
City & Guilds candidate No.	ABC1234
Provider name	<provider name=""></provider>
City & Guilds provider No.	999999a

Task(s)	3A
Evidence title / description	Completed quality check sheet
	Marked out test piece
Date submitted by candidate	DD/MM/YY

Task 3A

Assessment themes:

- Planning and preparation
- Quality review and evaluation

You must:

- carry out a full quality inspection of the completed bevel gauge, recording findings using the quality check sheet
- mark out a 35-degree angle on a material test piece using the bevel gauge.

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

- completed bevel gauge
- assessor observations:
 - usage of measuring equipment
 - o accuracy of angle marked out with measurements taken.

Candidate evidence

Health and Safety (HS), Planning and Preparation (PP), Production (P), Quality, review and evaluation (QRE)

Task 3 a)	Quality review process with consideration of:
Quality review	• checking of tolerances and use of appropriate measuring equipment.
Set 1 (Min 3	(At least one photograph of each of the below)
photos)	

a. The use of appropriate measuring equipment (callipers, rule, gauges) (QRE)

P4 incomplete record

b. The assembly conforms to specification e.g. dimensions and design (QRE)

Compone	nt Dimension	Tolerance	Req Size	Act Size	Error	Instrument Used	Result
Divider	Width 25mm	±0.25	Width 25mm	23mm	NIA		
	Length 30mm	±0.25	Length 30mm	29 mm	Imm		
	Holes 3 x Ø3.2			\$3.2	NIA		
Body	Width 25mm	±0.25	Width 25mm	25mm	NIA	The second se	
	Length 100mm	±0.25	Length 100mm	99mm	Imm		
	Holes 3 x Ø3.2 CSK to suit rivet		3 x Ø3.2	\$3.2	NIA		
	Hole 1 x Ø5.2		1 x Ø5.2	ø5-2	NIA		
	Radius R12.5			R12.3	N/A		
Body 2	Width 25mm	±0.25	Width 25mm	25mm	NIA	Yos	
	Length 100mm	±0.25	Length 100mm	99.8 mm	0-2		
	Radius R12.5		3 x Ø3.2	Ø 3·2	NIA		
	Holes 3 x Ø3.2 CSK			R12.3	NIA		
	to suit rivet		1 x Ø5.2	\$5.2	N/A		
	Hole 1 x Ø5.2						

c) Defect identification (where appropriate) (QRE).

P4 incomplete recording (see above)

Task 3 b)	Completed assembly and any sample parts (photographs from
	task 2 can be used to cover this – please cross reference)
Completed	
Assembly	(At least one photograph of each of the below)

Set 1 (Min 3		
photos)		

a) Showing the components assembled (QRE)







b) Quality of completed assembly (QRE)

P4 incomplete recording

c) Sample test piece/functionality meets required dimension/accuracy (Where applicable) (QRE)





practical observation quality review Task 3A

Quality inspection and application of measuring equipment.

The candidate put on their PPe and prepared their work area after carrying out a risk assessment.

They completed a visual inspection before dismantling to inspect each individual component.

The candidate referred to the drawing and made dimension checks on each component and recorded these details on quality check list chart.

All the tolerances where met.

The candidate measured with a high level of accuracy and kept referring back to the drawings to confirm tolerances.

Functionality Reassembled the bevel gauge in preparation for the test. candidate drew a 35-degree line on a piece of test material which was checked using a protractor.

The sample test proved acceptable having met the criteria.

Any defects did not affect the operation of the assembly.

Commentary

The candidate undertook a detailed inspection of the finished bevel gauge.

He used the correct measuring equipment to carry out dimensional checks on each component and recorded them on is check sheet.

All dimensions apart from two were within tolerance and the candidate put this down to overzealous filing! All joining pieces were flush with each other and surface finish acceptable.

The check sheet was very detailed and thorough clearly showing the candidate what needed to be measured for each component.

The candidate understood that should one dimension be out of tolerance this could lead to a build up of errors on other dimensions.

Component	Dimension	Tolerance	Req Size	Act Suze	Error	Instrument Used	Result
Divider	Width 25mm	±0.25	Width 25mm	23mm	N/A		
	Length 30mm	±0.25	Length 30mm	29mm	1MM		
	Holes 3 x Ø3.2			Ø3.2	N/A		
Body	Width 25mm	±0.25	Width 25mm	25mm	N/A		
	Length 100mm	±0.25	Length 100mm	99mm	1mm		
	Holes 3 x Ø3.2 CSK to suit rivet		3 x Ø3.2	Ø3.2	N/A		
	Hole 1 x Ø5.2		1 x Ø5.2	Ø5.2	N/A		
	Radius R12.5			R12.5	N/A		
Body 2	Width 25mm	±0.25	Width 25mm	25mm	N/A		
	Length 100mm	±0.25	Length 100mm	99.8mm	0.2mm		
	Radius R12.5		3 x Ø3.2	Ø3.2	N/A		
	Holes 3 x Ø3.2 CSK to suit rivet		1 x Ø5.2	R12.5	N/A N/A		
	Hole 1 x Ø5.2			Ø5.2			

Width 25mm	±0.25	Width 25mm	25mm	N/A		
Length 95mm	±0.25	Length 95mm	91mm	4mm		
Outer Radius R12.5		Outer Radius R12.5	R12.5	N/A		
Central Slot Width 5.2mm		5.2mm	5.2MM	N/A		
Length 52.5mm		52.5mm	52.5mm	N/A		
Distance from the edge 12.5mm		12.5mm	8mm	4.5mm		
	25mm 25mm 95mm Outer Radius R12.5 Central Slot Width 5.2mm Length 52.5mm Distance from the edge 12.5mm	Width±0.2525mm±0.2595mm±0.2595mm12.5Outer12.5Radius12.5Central12.5mmDistance12.5mm	Width±0.25Width25mm25mm25mmLength±0.25Length95mm0uter0uterRadiusRadiusRadiusR12.5R12.55.2mmCentral5.2mm52.5mmLength52.5mm52.5mmDistancefrom the12.5mmedge12.5mm12.5mm	Width±0.25Width25mm25mm±0.25Length 95mm91mm95mm±0.25Length 95mm91mmOuterOuter Radius R12.5R12.5Central Slot Width 5.2mm5.2mm5.2MMLength 52.5mm52.5mm52.5mmDistance from the edge 12.5mm12.5mm8mm	Width±0.25Width25mmN/A25mm±0.25Length 95mm91mm4mm95mm±0.25Length 95mm91mm4mmOuter Radius R12.5Outer Radius R12.5R12.5N/ACentral Slot Width 5.2mm5.2mm5.2MMN/ALength 52.5mm52.5mm52.5mmN/ADistance from the edge 12.5mm12.5mm8mm4.5mm	WidthE0.25Width25mmN/A25mm±0.25Length 95mm91mm4mm95mm±0.25Length 95mm91mm4mmOuter Radius R12.5Outer Radius R12.5R12.5N/ACentral Slot Width 5.2mm5.2mm5.2MMN/ALength 52.5mm52.5mm52.5mmN/ADistance from the edge 12.5mm12.5mm8mm4.5mm

Task 3B Evaluation and recording

Assessment number (eg 1234-033)	8713-331
Assessment title	Fitting and Assembly Technologies Occupational Specialism
Candidate name	<first name=""> <surname></surname></first>
City & Guilds candidate No.	ABC1234
Provider name	<provider name=""></provider>
City & Guilds provider No.	999999a

Task(s)	3B
Evidence title / description	Quality inspection report
Date submitted by candidate	DD/MM/YY

Task 3B

Assessment themes:

• Quality review and evaluation

You must:

- produce a quality inspection report evaluating the production of their finished bevel gauge. The report should typically be 800 words. This must include:
 - finished sizes of components and confirmation the bevel gauge conforms to the dimensional requirements of the specification
 - o an explanation of the quality checks undertaken and the reasons for their use
 - o result of the marked test piece and functioning of the bevel gauge
 - a concessions list for every facet of the assembly that does not conform to the specification, reasons for occurrence and how to prevent reoccurrence
 - an evaluation of the fitness for purpose of the finished bevel gauge and method of production used with reasoning and justifications
 - any improvements or adaptions required to the bevel gauge, including any reasoning and justifications if adaptions or improvements are not required.

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

- completed bevel gauge
- marked test piece.

Candidate evidence

Quality inspection report

The purpose of this report is for the evaluation of the bevel gauge that I have manufactured in the workshop this week. The finished sizes for all components of the bevel gauge are as follows: The Divider has a width of 25mm which is in the tolerance provided, a length of 30mm, the actual length of the component I produced is 29mm which is not in the tolerance provided and 3 holes with a diameter of 3.2, The first body component has a width of 25mm, and the actual size is 25mm, a length of 100mm with an actual length of 99mm which is not in tolerance, 3 holes drilled and countersunk with each a diameter of 3.2 and 1 hole drilled with a diameter 5.2. The second body component has a width of 25mm which the actual size is in tolerance, a length of 100mm, my component has a length of 99.8mm which is within the tolerance that was provided, 3 holes also drilled a countersunk to a diameter of 3.2 and 1 hole drilled at a diameter of 4.2 and threaded to M5. The blade component of the bevel gauge has a width of 25mm which mine is in tolerance, a length of 95mm the actual size of the component is 91mm which is not within the tolerance, a central slot width of 5.2mm which is not within the tolerance, slot length of 52.5mm which is in tolerance and the distance from the edge to the slot is 12.5mm, the actual distance is 8mm. The quality checks I have undertaken are used to make sure all of the components of the bevel gauge are within tolerance and will perform well, when necessary, I have measured all of the lengths and widths of the bevel gauge and some of them are in tolerance, and some are not. The following is a list of concessions for every facet of the assembly that does not conform with the provided tolerances. The length of the divider component is 1mm out of tolerance, the reason for this is that I filed off too much material when trying to get it to the right dimensions, to prevent reoccurrence do not take off too much material. The length of the body is 1mm out of tolerance, the reason for this is because of too much filling when getting it to the right dimension, to prevent reoccurrence always check how much material you have until you fall out of tolerance. The length of the bevel blade is 4mm out of tolerance, the reason for this is trying to get the blade to sit flush in between both of the body components of the bevel gauge, to prevent reoccurrence don't take off too much material. The distance between the edge of the blade and the start of the central slot is 8mm, which is 4.5mm out of tolerance, the reason for this is also because of trying to get the blade to sit flush in between both of the body components, to prevent reoccurrence don't take off too much material. The finished production of the bevel gauge I produced is fit for purpose as the angle of the blade is correct and it all fits together correctly. The method of production I used was hand fitting and a bit of machining. I started off with a file and saw so that I could get the components down to the required size, I then went to the belt sander to produce the radius on the end of the components to get a smoother finish and neater curve, I finished off a bit of the radius with the file towards the end to get it more within the tolerance. To create the bevel blade, I used a wobbler to centre and zero the milling machine to the required dimensions, I then drilled holes down the middle of the component to get the slot required for the blade to fit in the gauge. I finished off the blade with a file so that I could make the slot for the blade as smooth as possible, I marked out the angle on the edge of the blade and used to saw to cut away the material so I could make the angle, also used the belt sander to get the radius on the outside of the blade. I used the drills to drill through all three components (divider and both bodies) so that I could do it more efficiently than just drilling all parts individually. Improvements I would make to my bevel gauge would be to get all components of the gauge within the required tolerances so that is it all accurate in regard to the engineering drawings and specifications. And a smoother finish of the gauge and make the edges of it flat instead of curved. The test piece was marked successfully and the bevel gauge functions well.

quality inspection report commentary

The candidate's inspection report is very detailed and full of information.

They have itemised in the text all the dimensions to be checked but in hindsight this could have been done in a table format for clarity.

The candidate again in the txt has detailed these components that are out of tolerance and the potential problems arising because of this.

Overall, the report whilst gives a in depth insight into how the components were made rather than what was inspected for quality.

Comments on surface finish and the operation of the baled i.e. free to move and lockable were also mentioned and useful.

The candidate does make reference to using the gauge to mark out the test piece and resultant checking confirmed its suitability.

A table of required dimensions. Actual and whether in or out of tolerance would have added to this commentary.

25th April 2024

Task 3C Handover

Assessment number (eg 1234-033)	8713-331
Assessment title	Fitting and Assembly Technologies Occupational Specialism
Candidate name	<first name=""> <surname></surname></first>
City & Guilds candidate No.	ABC1234
Provider name	<provider name=""></provider>
City & Guilds provider No.	999999a

Task(s)	3C
Evidence title / description	Assessor observation of handover meeting
Date submitted by candidate	DD/MM/YY

Task 3C

Assessment themes:

• Quality review and evaluation

You must:

- hold a meeting with the supervisor to complete handover procedures, including:
 - o confirmation of work completed
 - o overview of findings in quality inspection report
 - suggested improvements to design or production process
 - o handover of finished bevel gauge, test piece and quality inspection report.

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

- handover materials consisting of:
 - completed bevel gauge (from Task 2)
 - marked test piece (from Task 3a)
 - o quality inspection report (from Task 3b).

Candidate evidence

Task 3c Handover meeting

The candidate explained what he had been tasked to accomplish in this scenario.

He showed a good understating of what was required in terms of tooling needed to make all the components and how he used them to meet the required tolerances and accuracy.

The candidate explained the function of a bevel gauge and how the parts interacted with each other to work correctly as a functioning model.

A couple of dimensions were out of tolerance, but the candidate said with a little more care next time this wouldn't be a problem. The assembly worked well as the blade could be secured once the correct angle was set which was clearly demonstrate when the bevel gauge was used to draw the 35-degree line on the test piece.

In terms of improvement the candidate said the riveting could have been a bit better and he would have liked to generate a better surface finish.

He presented the finished component, quality inspection report and the sampled test piece.

Video evidence was taken of the handover process.

Comments

The evidence highlights the candidate presented a comprehensive review of how the made ach component and assembled successfully the finished bevel gauge assembly.

They explained any issues and how they could have been avoided and realised how the depth of countersinking is critical to achieve a good fished rivet.

The candidate used the correct terminology throughout the handover, understood the health and safety regulations and standards within the industry.

The candidate conducted themselves professionally during the handover meeting.

25th April 2024



Get in touch

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

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