

The background of the entire page is a faded, blue-tinted photograph of two men in a workshop. They are looking intently at a piece of equipment that the man on the right is holding. The man on the left is wearing a polo shirt, and the man on the right is wearing a hoodie. The workshop environment includes various tools and equipment, suggesting a technical or industrial setting.

ICATT

APPRENTICESHIP
PROGRAM
TRAIN.RETAIN.GROW.

EXAM KICKOFF 2026

MECHATRONICS TECHNICIAN

OCTOBER 24, 2025

AGENDA

- Role of the trainer and apprentice
- ICATT Resource webpage – study resources and event information
- Important events/deadlines from Nov 2025-June 2026
- Exam Dates 2026
- Exam Overview
- Exam Materials – ordering info/options for 2026
- MOCK written and practical examination in company
- Study resources
- “testinvite” online practice questions sponsored packages
- Changes to written exam access on test day and results delivery

EXAMS?

All ICATT apprentices in the US complete the same examinations to verify that training and standards are equivalent among all companies participating in ICATT.

ICATT is unique in that apprentices earn 3 portable credentials:

- DOL/DWD Apprenticeship completion certificate or Journey worker's card
- AAS Degree from a local technical college
- DIHK Certificate – international standard backed by Germany

This requires:

- Curriculum completion
- On the job training hours
- Examination

As an ICATT apprentice you are held to a high standard for industry for your occupation, not just at your company. Exams ask you to demonstrate your level of competency in your field after 2 and 3 years of training.

APPRENTICES

- Know what resources are available from the GACC and where to find them. – This is a certification test, so just like any test, this may require extra study and time.
- Understand more of the expectations of the exams
- Hold your company/trainers accountable for having the necessary equipment/material and carving out and dedicating time for practice and preparation for the exams
- Become familiar with the BLUE BOOK and the RED/ORANGE Books
- Familiarize yourself with the exam process and evaluation
- Block your schedule for dates and events related to the exams
- Keep logbook updated!
- Be able to ask questions...today or later.....

TRAINERS

- Be a support to the apprentice
- Make sure apprentices have equipment and materials they need
- Carve out and dedicate time for practice and preparation for the exams – create a time-table/schedule for study/practice
- Hold apprentice accountable to study and preparation
- Become familiar with the BLUE BOOK and the RED/ORANGE Books
- Give feedback and advice
- Familiarize yourself with the exam process and evaluation
- Facilitate a “mock” or practice examination in house (simulate the test)
- Be on an exam board – must be qualified and approved

ICATT AND MAT2 APPRENTICE RESOURCE PAGE

ICATT

<https://www.icattapprenticeships.com/resources/apprentices>

Password:
SUCCESS101!

ICATT AND MAT2 RESOURCE PAGE

<https://www.icattapprenticeships.com/resources/apprentices>

Password:
SUCCESS101!



The screenshot shows the ICATT Apprenticeship Program website. At the top left is the logo 'ICATT APPRENTICESHIP PROGRAM'. To the right are navigation links: 'ABOUT US', 'COMPANIES', 'APPRENTICES', 'LOCATIONS', and 'NEWS & M'. Below the navigation is a banner image of a factory with the text 'ICATT Resources for Apprentices'. Underneath the banner are two orange buttons: 'About Us' and 'Upcoming Events'. Below these buttons is a section titled 'EXAMINATION RESOURCES' with a list of links: 'General Exam Resources', 'Exam Information : Advanced Manufacturing Technician (AMT)', 'Exam Information: Mechatronics Technician (MT)', and 'Exam Information: CNC Machining Professional'. On the far right edge of the screenshot, a small white box contains the text 'Hello the p'.

REGISTRATION

<https://www.icattapprenticeships.com/resources/apprentices/>

Due Nov 6th!

SUCCESS101!

EXAMINATION RESOURCES

General Exam Resources

General Exam Resources for Trainers

- ▶ [2026 Exam Registration Form](#) (PDF) Due Nov. 6, 2025
- ▶ [2026 Exam Important Dates](#) (PDF) Updated Oct 10, 2025
- ▶ [Exam prep checklist 2024-2025](#) (optional – reference)
- ▶ [“TestInvite” Trainer access DEMO](#) (YouTube)
- ▶ [“TestInvite” Practice test DEMO – Apprentice](#) (YouTube)
- ▶ [NDA Company Practice Exams Form](#)

Registration for Examination Summer 2026			
Occupational Profile Select:	Adv. Mfg Tech <input type="checkbox"/> CNC Machining <input type="checkbox"/>	Mechatronics Tech <input type="checkbox"/> Industrial Electronics Tech <input type="checkbox"/>	Stamping and Roll Form Tech <input type="checkbox"/> Business Apprentice <input type="checkbox"/>
Apprentice Information			
First and Last Name:			
Address:			
Telephone:	Email (personal non-company email):		
Apprenticeship Start Date:		Apprenticeship Expected End Date:	
Please select examination: Part 1 <input type="checkbox"/> Part 2 <input type="checkbox"/>			
I wish to apply for testing accommodations due to disability: YES <input type="checkbox"/> NO <input type="checkbox"/> <small>If checked yes, please submit (along with this registration) documentation confirming the existence of disability and the details of the accommodations requested. By providing your records and signing below, you are giving GACC Midwest permission to discuss your disability and accommodation needs with the examination boards, proctors and host sites on a need-to-know basis.</small>			
Employer Information			
Employer:			
Address:			
Contact Person (trainer/supervisor):			
Telephone:	Email:		

On behalf of the above-mentioned company, I hereby register this apprentice to participate in the above-mentioned examination and the employer agrees to pay all costs associated with the examination.

Employer contact First and Last Name (print) _____ Employer contact Signature _____ Date _____

As an apprentice of the above-mentioned company, I hereby agree that the information provided is correct. I agree to participation in the exam for which I have been registered. I am aware and agree that a third-party exam board and other approved observers may be present during the examination.

Apprentice First and Last Name (print) _____ Apprentice_Signature _____ Date _____



German American
Chambers of Commerce
Deutsch-Amerikanische
Handelskammer

German American Chamber of Commerce
of the Midwest, Inc.
150 North Michigan Avenue, 35th Floor
Chicago, Illinois 60601
Phone: +1 (312) 644-2662 | Fax: +1 (312) 644-0738
www.gaccmidwest.org

Atlanta | [Chicago](#) | [Detroit](#) | Houston | [New York](#) | [San Francisco](#) | Washington DC

The background is a blurred, light blue-tinted image of an industrial or manufacturing facility. It shows various pieces of machinery, pipes, and structural elements, creating a sense of a busy, technical environment. The text is centered over this background.

EXAM EVENTS – DATES AND DEADLINES

EXAM PREP TIMELINE

EXAMINATION RESOURCES

General Exam Resources

General Exam Resources for Trainers

- ▶ [2026 Exam Registration Form](#) (PDF) Due Nov. 6, 2025
- ▶ [2026 Exam Important Dates](#) (PDF) Updated Oct 10, 2025
- ▶ [Exam prep checklist 2024-2025](#) (optional – reference)
- ▶ [“TestInvite” Trainer access DEMO](#) (YouTube)
- ▶ [“TestInvite” Practice test DEMO – Apprentice](#) (YouTube)
- ▶ [NDA Company Practice Exams Form](#)

NOV to mid-March = PRE-Distribution Day (the day apprentices receive access to preparation documentation for their exam that will take place in summer 2026)

March = YELLOW Preparation Material distributed on “Distribution Day”

March to June = 2026 Exam specific preparation

May/June = EXAMS

IMPORTANT DATES – PRE DISTRIBUTION DAY

Date	Occupation	Event	Notes
Fri. Oct 24, 2025	MT 10am CST	Mtg: Exam Kickoff for 2025	Mandatory virtual event Apprentice and Trainer
Fri. Nov 6, 2025	AMT/CNC/MT/IET/BA	Due: Exam Registration	Mandatory – email to Geneva @ scurek@gaccmidwest.org
Thurs. Dec 18, 2025	MT 10am CST	Mtg: Conducting a practice exam at your company with your apprentice	Optional – Primarily Trainers, but Apprentices also welcome
Nov 2025 – Feb 2026	AMT CNC MT IET	<i>In-company MOCK exam – written and practical from copy of old exam provided to company trainer (once NDA is submitted) A second old practical exam is also available to get a copy for no additional fee (per request)</i>	<i>Trainers can use the provided 4-6 week timeline on the resource pages or create a timeline that works for apprentices to complete a MOCK exam by the end of Feb 2026 and complete the Mock exam Feedback Form by Feb 26, 2026</i>
Thur. Feb 26, 2026	AMT/CNC/MT	Due: Completed Mock Exam Feedback Form with inspection/photos/video	Mandatory - Apprentice and Trainer sign – email to Geneva scurek@gaccmidwest.org

IMPORTANT DATES – EXAM SPECIFIC PREPARATION

Date	Occupation	Event	Notes
Fri. Mar 13, 2026	MT 10am CST	Mtg: Distribution Day – Yellow preparation documents	Mandatory virtual event Apprentice and Trainer
Thur. Mar 26, 2026	AMT/CNC/MT/IET	Due: Yellow Prep – Questions Worksheet	Mandatory – email to Geneva; scurek@gaccmidwest.org
Fri. April 10, 2026	MT Part 2 only 10am CST	Mtg: Part 2 – Phase 2 distribution day	Mandatory virtual event Apprentice and Trainer
Thurs. April 23, 2026	MT/AMT Part 2 only	Due: Yellow Phase 2 Prep – Questions Worksheet	Mandatory – email to Geneva; scurek@gaccmidwest.org
Fri. May 8, 2026	MT 10am CST	Mtg: Final Exam Prep TBD – Study and Q&A	Optional virtual event apprentices and trainers

LOGBOOKS

ICATT 3rd year apprentices taking the PART 2 exam - submit logbooks electronically to scurek@gaccmidwest.org by June 30th, 2026 including all recorded work hours from start of apprenticeship through at least May 31st, 2026

WRITTEN EXAM DATE

WRITTEN/Theory EXAMS		
Wed. June 3, 2026	ICATT MT	ALL ICATT Written exams @ designated exam site Details TDB
June 2 nd , 3 rd or 4 th 2026	MAT2/ICATT (Michigan)	ALL Mechatronics MAT2/ICATT Written exams @designated exam site

PRACTICAL EXAM DATES

MT EXAMS

May/June TBD 2026	ICATT & MAT2 – MT	Practice Days @ assigned test sites TBD before exam date
May 19-21, 2026	MAT2 – MT Part 2 (MI)	Practical Exam @ Henry Ford College or M-tec(MI)
June 9-10, 2026	ICATT – MT ALL (MN)	Practical Exam @ Hennepin (MN)
June 11-12, 2026	ICATT – MT ALL (NE)	Practical Exam @ Metro (NE)
June 15-16, 2026	MAT2 – MT Part 1 (MI)	Practical Exam @ Henry Ford College (MI)
June 16 2026	ICATT – MT ALL (IN)	Practical Exam @ E+H (IN)
June 18-19, 2026	ICATT – MT ALL (IA)	Practical Exam @ ALPLA (IA)
June 23-26, 2026	ICATT – MT (IL/WI)	Practical Exam @ Wieland (IL/WI)



EXAM OVERVIEW

MECHATRONICS TECHNICIAN

Final Examination Overview - ICATT Mechatronics Technician			
Final examination: <u>Part 1</u> Weighting: <u>40 %</u>		Final examination: Part 2 Weighting: 60 %	
Areas of examination		Areas of examination	
<u>Practical task with professional, situation-based discussions</u>	<u>Written examination</u>	<u>Practical task with professional, situation-based discussions</u>	<u>Written examination</u>
Weighting: 50 %	Weighting: 50 %	Weighting: 50 %	Weighting: 50 %
Total time permitted: 6.5 h	Total time permitted: 1 h 30 min	Total time: 14 h	Total time permitted: 4 h 15 min
- Planning* Weighting: 20 % Time suggested: 30 min	- Part A (50%): 23 multiple choice questions 3 of which can be deselected	- Preparation for the practical task 8 h In company	- Work Planning Time permitted: 105 min Weighting: 40 %
- Execution including tech discussion Weighting: 40 % Time suggested: 4 h	- Part B (50%): 8 short answer questions No deselection possible	- Execution of the practical task 6 h At exam site	Part A (50%): 28 multiple choice questions – 3 of which can be deselected
			Part B (50%): 8 short answer questions No deselection possible

MECHATRONICS TECHNICIAN

Final Examination Overview - ICATT Mechatronics Technician			
Final examination: Part 1 Weighting: 40 %		Final examination: <u>Part 2</u> Weighting: <u>60 %</u>	
Areas of examination		Areas of examination	
Practical task with professional, situation-based discussions Weighting: 50 % Total time permitted: 6.5 h	Written examination Weighting: 50 % Total time permitted: 1 h 30 min	<u>Practical task with professional, situation-based discussions</u> Weighting: 50 % Total time: 14 h	<u>Written examination</u> – Work planning – Functional analysis – OSHA and Workers Rights Weighting: 50 % Total time permitted: 4 h 15 min
– Planning* Weighting: 20 % Time suggested: 30 min – Execution including tech discussion Weighting: 40 % Time suggested: 4 h	– Part A (50%): 23 multiple choice questions 3 of which can be deselected – Part B (50%): 8 short answer questions No deselection possible	– Preparation for the practical task Time allotted: 8 h In company – Execution of the practical task Time allotted: 6 h At exam site	– Work Planning Time permitted: 105 min Weighting: 40 % Part A (50%): 28 multiple choice questions – 3 of which can be deselected Part B (50%): 8 short answer questions No deselection possible

3 subject areas
105 min
105 min
60 min



EXAM MATERIAL PART 1

EXAM EQUIPMENT SUPPLIERS

Metal and Hardware supplier of Exam specific equipment/material kits:

- Christiani.de

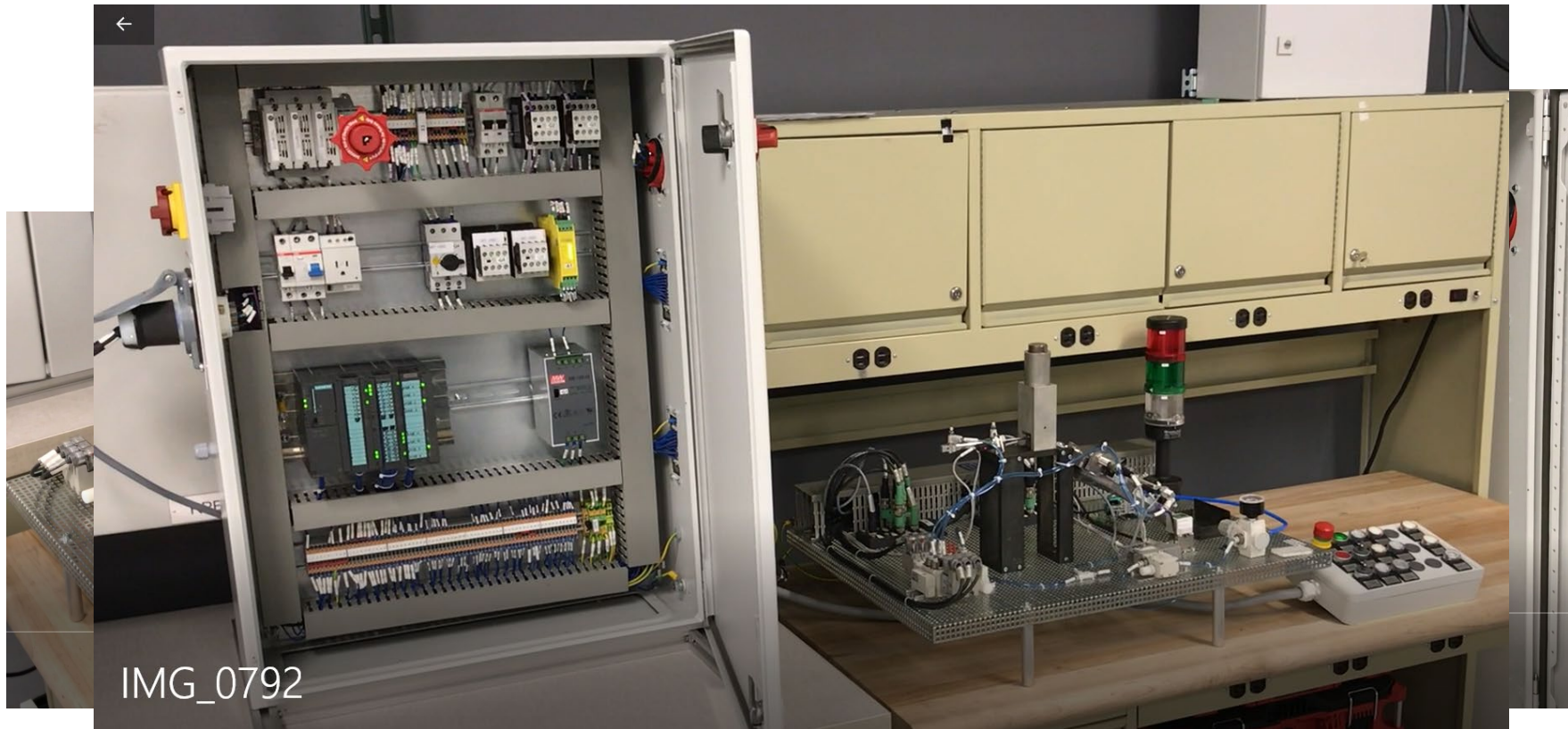
Metal and or hardware supplier of European metric measurements and standards:

- Metric Metal – Parker Steel
- Misumi
- McMaster-Carr

Tooling supplier of metric tooling

- Hoffmann Group

EXAM MATERIAL



IMG_0792

EXAM MATERIAL – PART 1 – FIRST TIMERS

REQUIRED Part 1 material from Christiani (first time examinees)		
Item No	Description	Price* in Euro
42900 Christiani	REQUIRED - Not assembled /Mounting Kit - US NEMA Standard Material Mechatronics Technician as on "Standard Material staging list" -Electric equipment, pneumatics parts from SMC, lights and proximity switches, display and control unit. (as of spring 2018) - without PLC	4,614.50 Euro
AND		
54143 Christiani	Siemens PLC SCE S7-1512C-1PN - including Siemens Step 7 Software for Training – <i>special license rules</i> <i>apply-contract available via PDF</i>	975.70 Euro
(you do not have to order PLC from Christiani, you can use any PLC that is compatible with the equipment and has 24 inputs and outputs)		
AND		
200728 Christiani	Material set, mechanical, electrical and pneumatics Items I/1.-10. on Page 8 of the Yellow prep documentation and Items, I/1.-17., II/1.-7. and III/1 on Page 9 of the Yellow preparation documentation for US 2026 (German Spring 2024) Part 1 examination - the metal (Items I/1.-17.) is already cut to the prefabrication state according to YELLOW (you can purchase these items in their raw dimensions from a local supplier per the YELLOW preparation documentation provided instead if you prefer and fabricate them on your own)	383.90 Euro
AND		
42906 Christiani	Extension cord 120/208V AC (3 m) (you can purchase this from a local supplier instead of Christiani)	253.00 Euro OR purchased by US supplier

EXAM MATERIAL – PART 1 - NOT FIRST TIMER

UPGRADE kit from 2025 to 2026 (only metal and hardware that is different from 2025, and you reuse the rest):

OPTION 1 REQUIRED Part 1 material from Christiani (repeat companies testing)		
Item No	Description	Price* in Euro
105984 Christiani	Material set, mechanical UPGRADE only from US 2025 to US 2026 Part 1 (German Spring 2022 to Spring 2024) Item no. I/4, I/5, I/7.1, I/7.2, I/8.1 to I/8.4, I/9, I/14 to I/17 and II/1 to <u>II/7</u> of the <u>Yellow</u> preparation documentation page 9.	214.50 Euro
AND/OR		
106047 Christiani	Electrical and Pneumatic consumables only US 2026 Part 1 (German Spring 2024) Item no. 1/1 to 1/10 of the yellow preparation documentation page 8	31.90 Euro OR purchased by US supplier

OR OPTION 3 buy it from a local supplier after YELLOW distribution in March.

EXAM MATERIAL – PART 1 - NOT FIRST TIMER

The whole chute set up again with hosing and wire consumables:

OPTION 2 REQUIRED Part 1 material from Christiani (repeat companies testing)		
OR		
200728 Christiani	Material set, mechanical, electrical and pneumatics Items I/1.-10. on Page 8 of the <u>Yellow</u> prep documentation and Items, I/1.-17., II/1.-7. and III/1 on Page 9 of the <u>Yellow</u> preparation documentation for US 2026 (German Spring 2024) Part 1 examination - the metal (Items I/1.-17.) is already cut to the prefabrication state according to US YELLOW	383.90 Euro

OR OPTION 3 buy it from a local supplier after YELLOW distribution in March.

EXAM MATERIAL – PART 1



MT Part 1 Preparation Documents

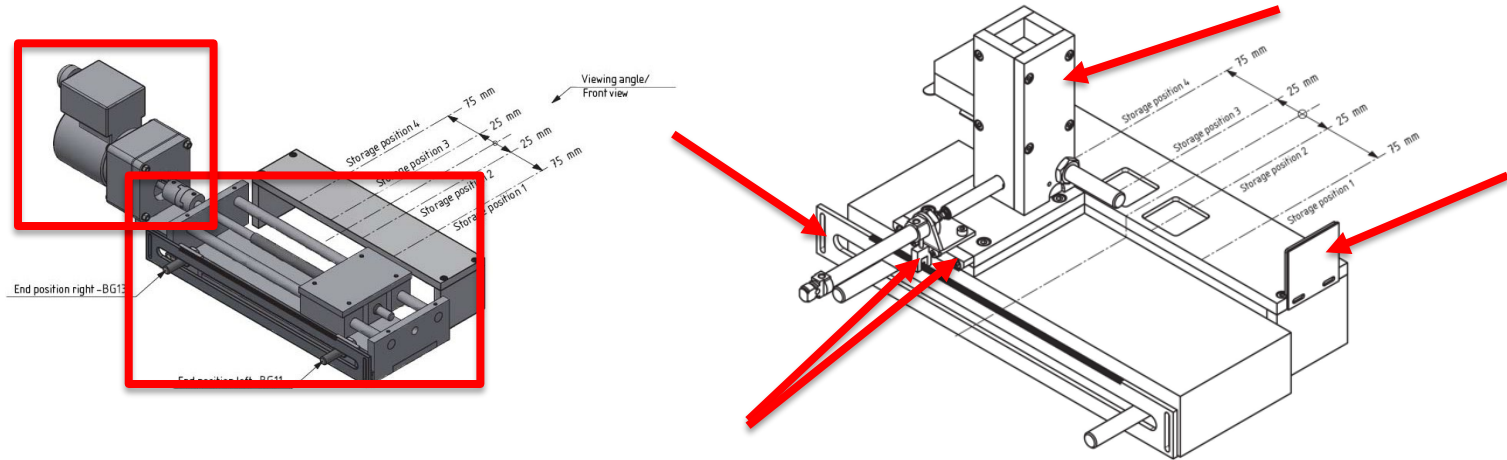
MATERIAL

- ▶ [MT Part 1 Order Info 2026 – first timers](#) (If you are the first apprentice to take this exam from your company, your company must order all of the required equipment on this doc.)
- ▶ [MT Part 1 Order Info 2026 – not first timers](#) (If you are not the first apprentice to take this exam from your company, your company can still order pre-fabricated parts and hardware in a kit specific to this exam if they choose.)
- ▶ [MT Tools for training and exams order info](#)(tools expected to be needed during apprenticeship for MT)
- ▶ [Additional MT Part 1 US specific Equipment order Info](#) – if you did not order from Christiani



EXAM MATERIAL PART 2

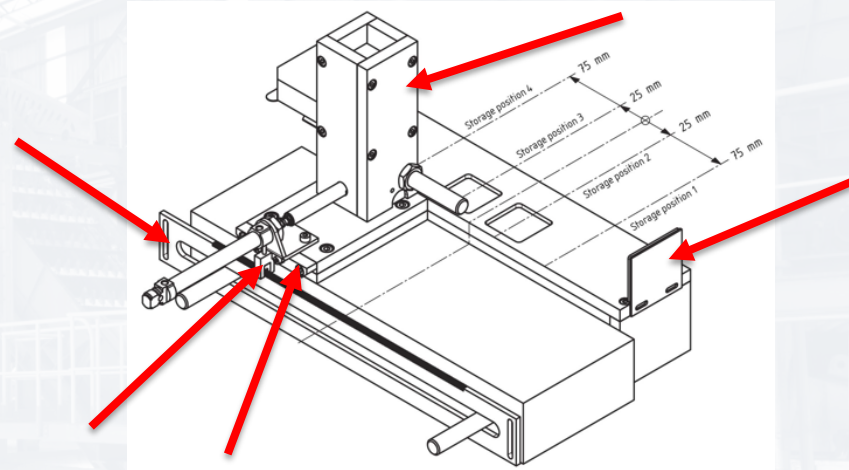
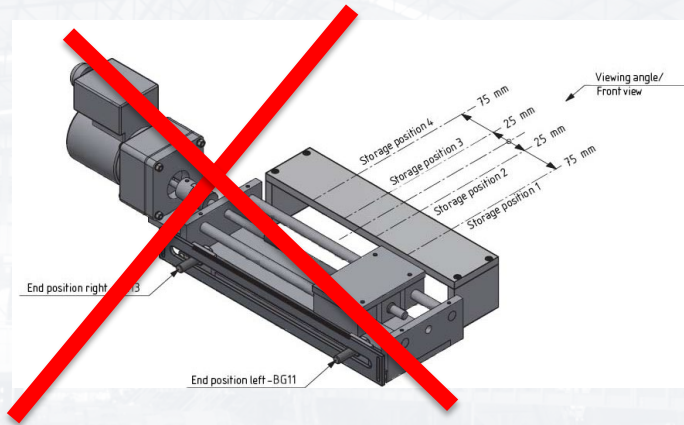
EXAM MATERIAL - PART 2 FIRST TIMER



REQUIRED Part 2 material for first time PART 2 examinees who do NOT have the Axle Model and 3-phase Motor from Christiani

Item No	Description	Price* in Euro
200740 Christiani	assembled axle model plus motor and mechanical, pneumatic, electrical set US 2026 (German Summer 2024) with small geared 200V 3 phase motor, cable and NEMA L21-20P plug, metal material already fabricated per Yellow Documentation, assembly hardware, plus additional hosing, wiring	1,670.90 Euro

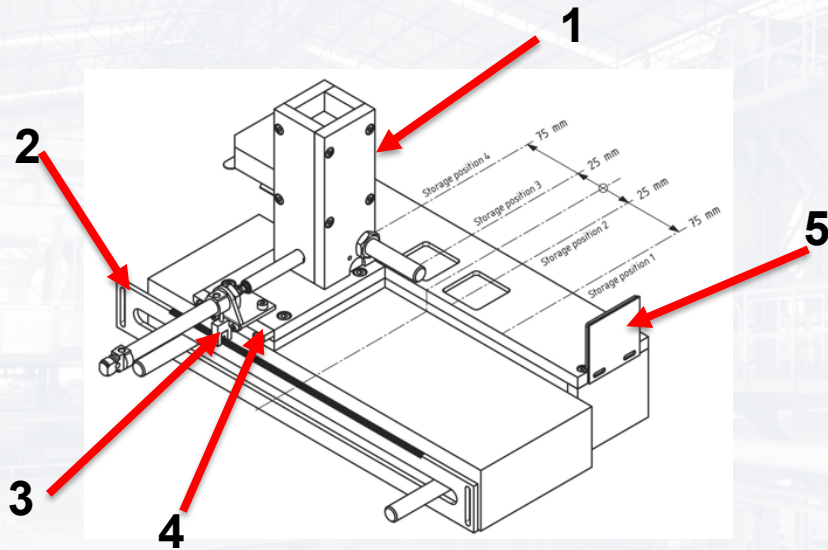
EXAM MATERIAL – PART 2 – NOT FIRST TIMER



OPTION 1 – complete assembly kit for 2026

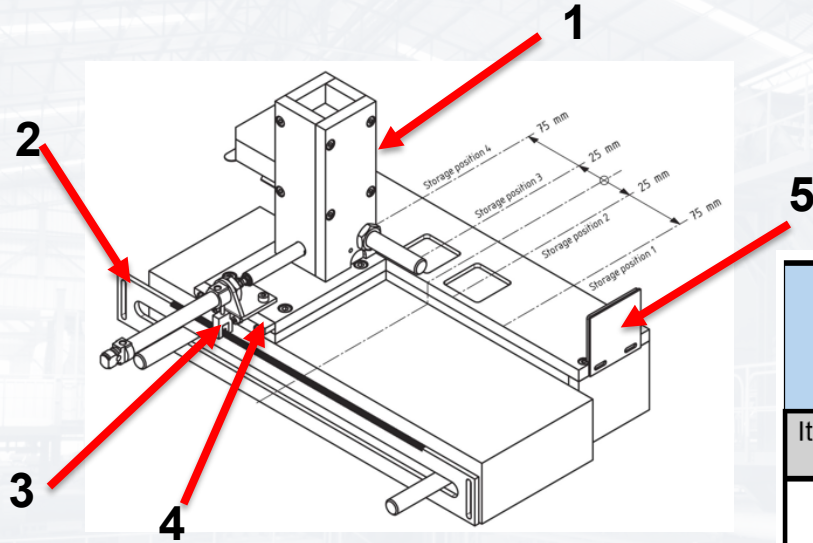
Item No	Description	Price* in Euro
200730 Christiani	Exam specific Material set with mechanical and electrical - without axis model, without motor, US 2026 items VII/17-27 only - assembly (German Summer 2024)	427.90 Euro

EXAM MATERIAL – PART 2 – NOT FIRST TIMER



Item no.	Description	2025 US	2026 US
1	Metal and Hardware for mechanical assembly	NO	✓ Yes
2	Positioning plate	NO	✓ Yes
3	Fork Light Barrier	NO	✓ Yes
4	Spacer	NO	✓ Yes
5	Reflective light barrier	NO	✓ Yes
6	Permanent Electromagnet (Exam Day - not pictured)	✓ Yes	✓ Yes

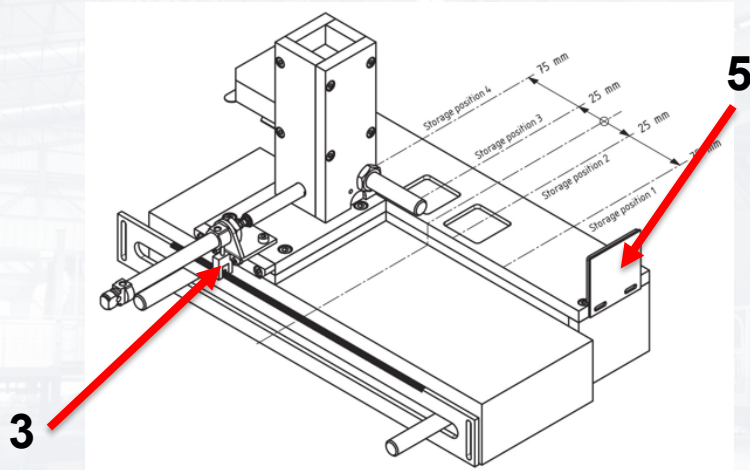
EXAM MATERIAL – PART 2 – NOT FIRST TIMER



OPTION 2 – “a la carte” items to add on for 2026 from Christiani

Item No	Description	Price* in Euro
1	Metal and Hardware ONLY	167.20 Euro
2 & 4	Spacer, positioning plate and 2 screws	34.10 Euro
3	Fork light barrier	91.30 Euro
5	Reflective light barrier	108.90 Euro
not pictured	Permanent electromagnet	38.17 Euro

EXAM MATERIAL – PART 2 – NOT FIRST TIMER



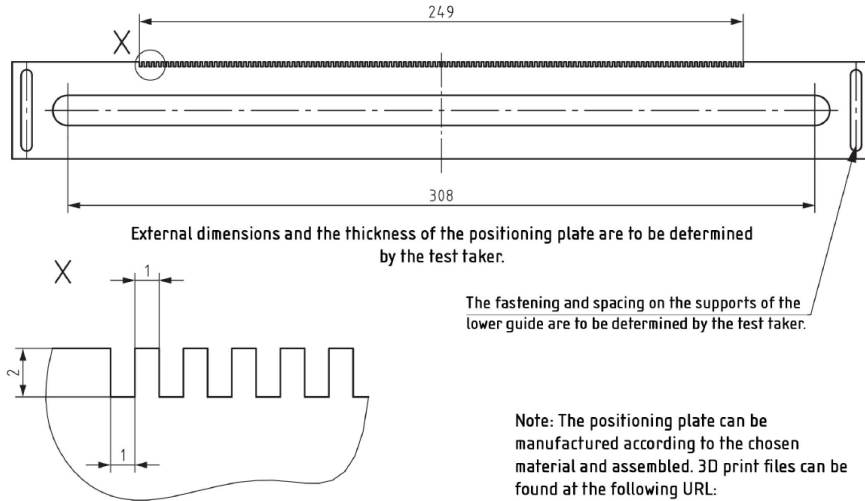
These can also be purchased from a local supplier:

OPTION 3 – “a la carte” items order to add on from 2026 from US supplier

Item No	Description	Price* in Dollar
Options with Link to Forklight or U-frame barrier or Fork light barrier	Fork light barrier (e.g., Panasonic, PM-T45-P, T-type, 5-24 V/DC) with approx. 1.5 m long pre-assembled connection cable	\$15-\$25
Options with Link to Reflective light barrier or Reflective light barrier	Reflective light barrier with reflector and standard mountings for test setup, operating voltage: 12-24 V DC Range: min. 50 cm, Output signal: PNP Open Collector (24 V DC and switchable (1 signal when light is ON or light is OFF)), infinitely variable sensitivity adjustment, with approx. 1.5 m long (professionally extended) pre-assembled connection cable <i>including connector M12</i>	\$100-\$160

EXAM MATERIAL – PART 2 – NOT FIRST TIMER

Positioning plate



External dimensions and the thickness of the positioning plate are to be determined by the test taker.

The fastening and spacing on the supports of the lower guide are to be determined by the test taker.

Note: The positioning plate can be manufactured according to the chosen material and assembled. 3D print files can be found at the following URL:

Test taker is to choose for themselves the fastening screws to be used to fasten the positioning plate to the axis module.

<https://www.ihk.de/stuttgart/pal/berufe-a-bis-z/mechatroniker-in-0942--5176024> and on the ICATT resource page.

Item no.	Description	2025 US	2026 US
2	Positioning plate	NO	✓ Yes

Don't want to buy it?

- You can manufacturing it according to the prints you get in March.

OR

- You can 3D print it by downloading it from IHK website via link found on the ICATT resource page or Geneva can send try to send the .stl file she downloaded to you per request

EXAM MATERIAL – PART 2

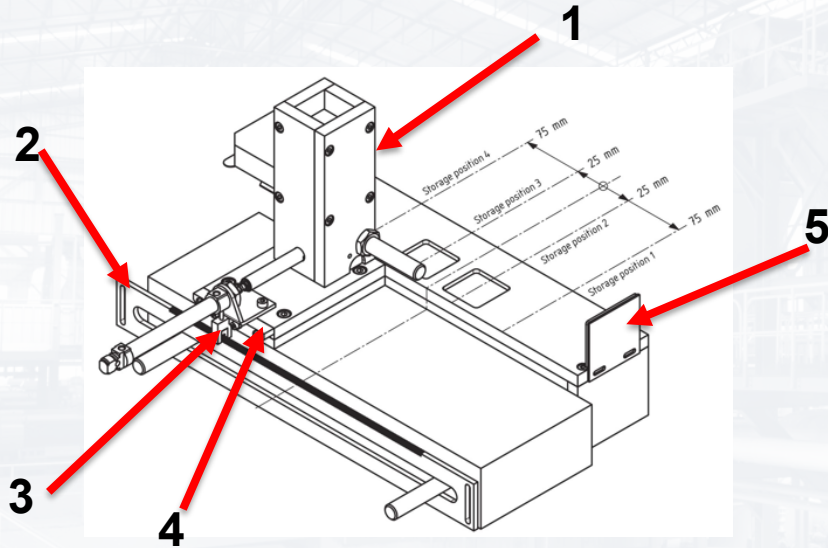


MT Part 2 Preparation Documents

MATERIAL

- ▶ [MT Part 2 Order Info 2026 – first timers](#) (PDF) (If you are the first apprentice to take this exam from your company, your company must order all of the required equipment on this doc)
- ▶ [MT Part 2 Order Info 2026 – NOT first timers](#) (PDF) (If you are not the first apprentice to take this exam from your company, your company can still order pre-fabricated parts and hardware in a kit specific to this exam if they choose or only specific items that they do not have yet but will need for this exam.)
- ▶ Positioning plate for the sensors:
 - ▶ [Positioning Plate with teeth](#) (3D PDF) If you want the .step file to 3D print the positioning plate for the Part 2 exam, please contact scurek@gaccmidwest.org. The website does not support the file.
 - ▶ Alternatively, you can go to the German Exam website and download the zip file <https://www.ihk.de/stuttgart/pal/berufe-a-bis-z/mechatroniker-in-0942-5176024>. First you have to scroll down to find Abschlusspruefung Teil 2, click the + to expand the section, then it is the first choice on the list "Positionierplatte – 3D-Druckdatei (Zip-Datei 228KB)".

EXAM MATERIAL – PART 2 – NOT FIRST TIMER



Item no.	Description	2026 US
1	Metal and Hardware for mechanical assembly	✓ Yes
2	Positioning plate	✓ Yes
3	Fork Light Barrier	✓ Yes
4	Spacer	✓ Yes
5	Reflective light barrier	✓ Yes
6	Permanent Electromagnet (Exam Day - not pictured)	✓ Yes



STANDARDS REMINDERS

CALCULATE RESISTANCE

Calculate the expected resistance of the protective conductor for the following. First determine the cable length and the number of terminal points. Remember at each terminal point, a maximum contact resistance of 10 ~~m~~Ω applies and use Table 1 below for additional variable information.

Ground wire continuity	Conductor Length	Number of terminal points	Calculated Resistance Value
PE contact on main power cord to electrical cabinet			
PE contact on main power cord to assembly grid			
PE contact on main power cord to switch cabinet door			
PE contact on main power cord to outlet -X13			
PE contact on main power cord to power supply unit			
PE contact on main power cord to -X1.7 PELV			
PE contact on main power cord to control panel			
PE contact on main power cord to mechanical assembly			

TABLE 1:

Nominal Conductor cross section S mm ²	Conductor resistance R ^l at 30 °C (86 °F) mΩ/m
1.5	12.575 5
2.5	7.566 1
4	4.739 2
6	3.149 1
10	1.881 1

The conductor resistance values refer to conductor temperatures of 30 °C (86 °F). For other temperatures of θ the conductor resistances R_{θ} can be calculated with the following equation:

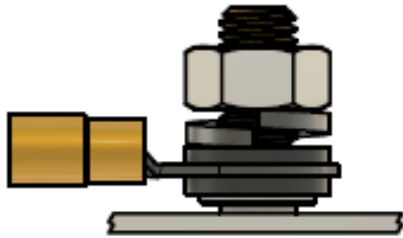
$$R_{\theta} = R_{30^{\circ}\text{C}} [1 + \alpha \cdot (\theta - 30^{\circ}\text{C})]$$

α temperature coefficient (for copper $\alpha = 0.00393 \text{ K}^{-1}$).

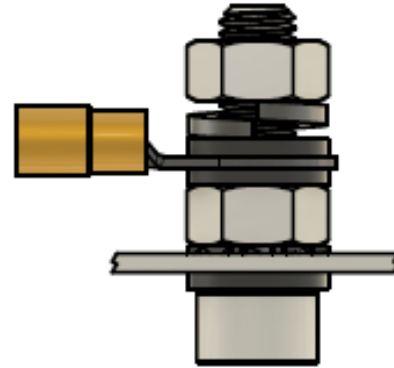
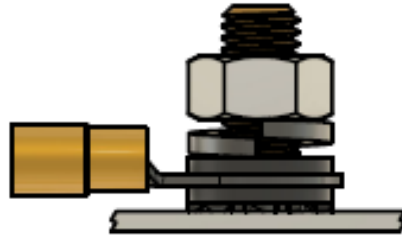
The Electrical Study Session from 2023 on the resource page reviews how to complete these calculations, this page is also at the end of your yellow preparation documentation for Part 1 and on the resource page. Calculations should be completed for your mock exam and prior to the summer examination.

PROPER GROUNDING OF ELECTRICAL EQUIPMENT

Exam requirement – drawings found on ICATT resource page



To cabinet wall



Through back plane

DIN/VDE VALUES

Values per DIN/VDE 0100-600 and DIN/VDE 0701-0702

Limit Values for Groundwire resistance	
$\leq 0.3\Omega$	up to 5m wire length and 16A rated current
add 0.1 Ω for each 7.5m up to 1 Ω	for wires more than 5m with a rated current up to 16A
For all other wires use the calculated specific resistance	

Insulation resistance		
Min. resistance	Rated Voltage of the circuit	Measuring Voltage
0.5M Ω	SELV, PELV	250V
1.0M Ω	up to 500V (including FELV)	500V
1.0M Ω	over 500V up to 1000V	1000V

GFCI/RCD testing	
Limits per DIN/VDE	Measurement
$\leq 50V$	Contact Voltage
≤ 400 ms	Tripping Time
\leq rated fault current	Trip Current

MEASURING EQUIPMENT – REQUIRED

As a company – if it is your 1st year having an apprentice test, this may be waived.



As a company – if it is your 2nd + year having an apprentice test, you need to have this or alternatives.

MEASURING EQUIPMENT - REQUIRED

REQUIRED FOR COMMISSIONING

Option 1

Vendor	Description	Price
TEquipment	Fluke 1664 FC multifunction installation tester (or alternative with same functions)	\$3,151.16

Option 2

Vendor	Description	Price
AMAZON	SM852B 3 phase sequence rotation tester LED Indicator Detector Checker Meter (or alternative with same function)	\$15.35

AND

Home Depot	Klein rt390 circuit analyzer (or alternative with same function)	\$116.44
------------	--	----------

AND

Home Depot	Standard Multimeter (fluke 115 multimeter) (or alternative with same function)	\$266.99
------------	--	----------

AND

Home Depot	Fluke insulation resistance tester (or alternative with same function)	\$706.99
------------	--	----------



RESOURCE PAGE

General MT Exam Information

- ▶ [Mechatronics Exam Format and scoring overview](#)
- ▶ [MT Standard Material Staging List](#)
- ▶ Training and exam tools: [Quotation No. 24517142 Hoffmann Quality Tools USA](#) (items from page 4-6 of Standard material staging list above – not all tools are needed for the exam, but recommended for training and exams)
- ▶ [DWG: Proper Grounding of Electrical Equipment](#) (3 page PDF)
- ▶ [MT Part 1 and 2 Commissioning Equip – all](#) (to complete a proper commissioning you will need to either have 1 piece of equipment that is able to do all of the necessary measurements such as a FLUKE Megger or you can purchase multiple instruments that each take different measurements needed for commissioning, you can find alternatives to a Megger on this document)
- ▶ [DIN VDE Values](#) (PDF)
- ▶ [Ground Wire Continuity Calculations](#) (PDF)

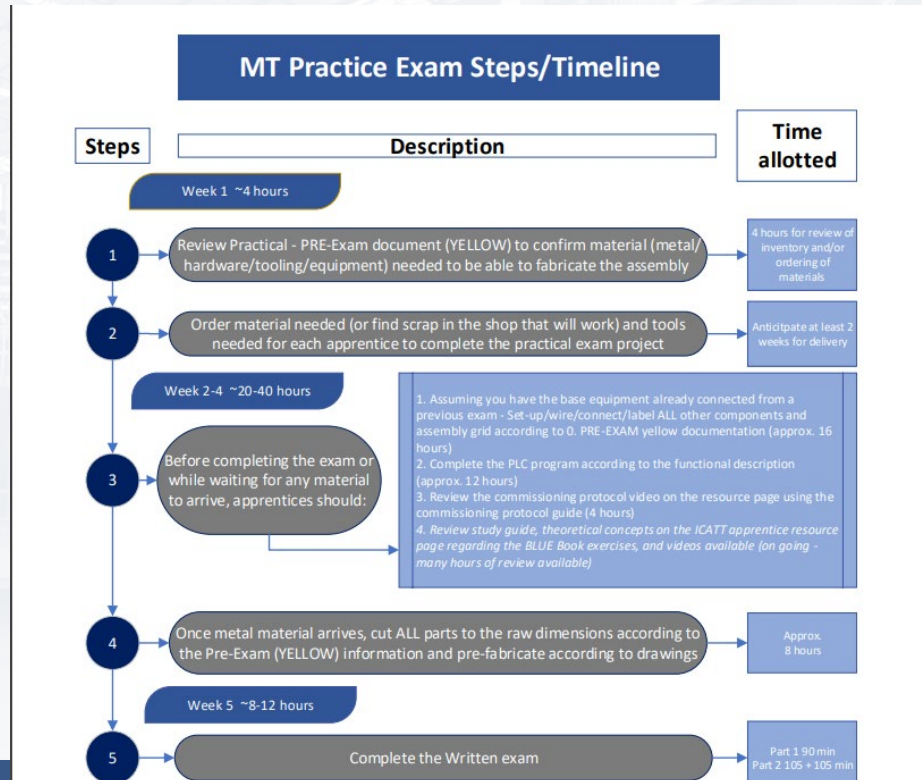
The background is a blurred industrial or laboratory setting. It features various pieces of machinery, including what appears to be a large metal frame or gantry system. In the foreground, there are several large, coiled bundles of white or light-colored cables or hoses. The overall scene is out of focus, creating a sense of depth and activity. The text 'MOCK- PRACTICE EXAMINATION' is overlaid in the center in a bold, dark blue font.

MOCK- PRACTICE EXAMINATION

MOCK-PRACTICE EXAM – USING AN OLD EXAM PROVIDED BY GACC MIDWEST

Nov 2025-Feb 2026
complete a MOCK-
Practice exam at your
company.

Suggested timeline for
Mock-Practice exam
over **6 weeks**



NOTE:
These MOCK exams are too old to be able to purchase a consumables/material kit from Christiani. The order information provided today is only for the real 2025 exam.

MOCK - PRACTICE EXAM FEEDBACK FORM – DUE FEB 26TH

By end of Feb 2026 complete a MOCK-Practice exam (written and practical) at your company.

Fill out MOCK-Practice Exam Feedback Form downloadable on the website and return to me with pictures/videos of the practical by FEB 26th!

Signed by apprentice and trainer!

AMT MOCK-Practice Exam Feedback Form | © AHK USA-Chicago/PAL

Mechatronics Technician (MT) Part 1/Part 2 MOCK-Practice Exam Feedback Form – Due February 29th “MOCK-Practice Exam” - facilitated by trainer in-company Using “old” Mechatronics exam documents provided by GACC Midwest

Which practice examination did you complete (check the one you completed) Part 1 Part 2

Self-evaluation (Rate 1-5)		
Rate your effort in completing this practice exam. (5 most effort, 1 least effort)	Written ____	Practical ____
Rate your ability to dedicate time to completing this practice exam. (5 able to dedicate the time I needed, 1- had minimal time)	Written ____	Practical ____
Rate the support (allowed appropriate time; assessed work; advised; answered <u>questions</u> ...etc.) that you received from your company/trainer to complete both the written and practical parts of the practice exam. (5 full support, 1 no support)	Written ____	Practical ____
Comments:		

Written Exam: The Part 1 written exam is a total of 90 min for both the Multiple Choice and the short answer questions.	
Rate how much you used the Mechanical and Metal Trades Handbook AND/OR the Electrical Engineering book while taking the written exam and/or when reviewing the questions? (5 almost every question, 1 did not use the books)	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
Did you complete the written exam under 90 min timed conditions?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Part 1 How many <u>multiple choice</u> questions did you get right out of 23?	____/23
Part 1 How many points out of 80 possible points (10 points per “U” question set) did you earn on the short answer questions?	____/80
After review, which topics were the most challenging for you and what do you plan to practice more or work on with your trainer prior to the exam:	

MOCK-PRACTICE EXAMINATION

Conducting a “MOCK” practice exam at your company:

- ▶ [MT Practice Exam Steps/Timeline – Flowchart \(PDF\)](#)
- ▶ [MT Conducting a Practice Exam – Trainer Session – December 20th, 2022 \(YouTube\)](#)
- ▶ [MT Conducting a Practice Exam – Trainer Session – January 12th, 2023 \(YouTube\)](#)
- ▶ [MT Preparing and Conducting a Mock Exam – Trainer Session – January 16th, 2024 \(YouTube\)](#)
- ▶ Online [LINK to MT MOCK- Practice Exam Feedback Form](#) **OR** Downloadable Word Doc [MT MOCK-Practice exam Feedback Form](#)

Mechatronics Technician Part 1/Part 2 MOCK-Practice Exam Feedback Form

Due February 26th - “MOCK-Practice Exam” - facilitated by trainer in-company using “old” Mechatronics exam documents provided by GACC Midwest. Make sure you have completed both a practical and written practical exam before completing this form.

When you submit this form, it will not automatically collect your details like name and email address unless you provide it yourself.

* Required

Self-Evaluation, Part 1 or Part 2 (Rate 1-5)

1

First and Last Name *



ADDITIONAL STUDY RESOURCES

EXAM PREP CHECKLIST – OPTIONAL REFERENCE

Exam Preparation Checklist

Nov - March = Before "distribution day" or continued study after March "distribution day" where relevant	
<input type="checkbox"/>	Submitted Exam Registration
<input type="checkbox"/>	Attended Exam Kickoff meeting Oct 18 th
<input type="checkbox"/>	Watched all relevant "study sessions" on ICATT/MAT2 resource page: <ul style="list-style-type: none"> <input type="checkbox"/> AMT/MT/CNC Study Session -Feb 18, 2022, Part 1 <input type="checkbox"/> AMT/MT/CNC Study Session -Feb 18, 2022, Part 2 <input type="checkbox"/> CNC PAL Programming Study Session Part 2 – April 22, 2022 <input type="checkbox"/> Electrical Study Session (with PPT) – April 27, 2023 <input type="checkbox"/> CNC PAL Programming Study Session Part 2 – Feb 16, 2024 <input type="checkbox"/> GRAFCET (AMT/MT/IET) Study Session – Jan 12, 2024
<input type="checkbox"/>	Watched the 2 Blue book orientation videos on the ICATT/MAT2 resource page and reviewed: Conversion Inches to Decimals and Metric
<input type="checkbox"/>	Completed available blue book exercises on ICATT/MAT2 resource pages: <ul style="list-style-type: none"> <input type="checkbox"/> Bending <input type="checkbox"/> Drilling <input type="checkbox"/> Fits <input type="checkbox"/> Mass <input type="checkbox"/> Milling <input type="checkbox"/> Pneumatic <input type="checkbox"/> Screws and Bolts <input type="checkbox"/> Cutting <input type="checkbox"/> Turning <input type="checkbox"/> Weights <input type="checkbox"/> GRAFCET <input type="checkbox"/> Costs and Production Time
<input type="checkbox"/>	Completed Christiani binder – Manual Material processing exercises
<input type="checkbox"/>	Completed 3 untimed attempts at the "testinvite" questions in practice mode (ordered for fee): <ul style="list-style-type: none"> <input type="checkbox"/> Attempt 1 <input type="checkbox"/> Attempt 2 <input type="checkbox"/> Attempt 3
<input type="checkbox"/>	AMT and CNC – Completed Practice exercises "Vise" and "compressed air engine" under "... Practice exercises for Part 1 and Part 2 practical exams"
<input type="checkbox"/>	AMT – Completed Pneumatic Exercises 1 and 2 under "... Practice exercises for Part 1 and Part 2 practical exams"
<input type="checkbox"/>	Reviewed occupational "core competencies" progress and logbook with Trainer
Jan - Feb = MOCK EXAM in company	
<input type="checkbox"/>	Trainer completed NDA for a Mock Exam in company or already has old exam from GACC
<input type="checkbox"/>	Apprentice and Trainer reviewed the "Conducting a Practice Exam Steps/Timeline – Flowchart" for your occupation.
<input type="checkbox"/>	Completed Mock Written Exam
<input type="checkbox"/>	MT and IET - Watched and practiced Commissioning protocol using "MT Commissioning protocol guide"
<input type="checkbox"/>	CNC – reviewed "CNC In-company Project Instructions and Required Documentation" on ICATT resource page
<input type="checkbox"/>	Completed Mock Practical Exam at company – Sample Exam #1
<input type="checkbox"/>	Completed Mock Practical Exam at company - Sample Exam #2 (a second practical exam at no additional fee in English can be received upon trainer request)
<input type="checkbox"/>	Submitted Mock Exam Feedback Form with pics and video
<input type="checkbox"/>	Watched the Mock Exam written question review – recording (available after Feb 28 th)
March - June = After YELLOW Preparation Material distributed on "Distribution Day"	
<input type="checkbox"/>	Completed and/or reviewed with trainers the "study guide" for your respective exam if available ICATT/MAT2 resource page
<input type="checkbox"/>	Attended "Yellow Distribution Day" for your occupation March 4 th

COMMISSIONING PROTOCOL

STUDY INFO

- ▶ [MT Commissioning Protocol Guide](#) (updated 3/16/2023)
- ▶ [First half of commissioning; Second half of commissioning recording](#)
changes have been made to the commissioning protocol guide that
very relevant!)
- ▶ [PLC Siemens Logic starter from 2020 exam](#)
- ▶ [Mechatronics Part 1 Study Guide](#) (updated 6/2022)

Check no.	Inspection item	OK	
1	Circuit diagrams available and complete	yes <input type="checkbox"/>	no <input type="checkbox"/>
2	Proper installation of operating equipment	yes <input type="checkbox"/>	no <input type="checkbox"/>
3	Ground wire properly connected	yes <input type="checkbox"/>	no <input type="checkbox"/>
4	Terminal securely fastened	yes <input type="checkbox"/>	no <input type="checkbox"/>
5	No damaged wiring	yes <input type="checkbox"/>	no <input type="checkbox"/>
6	Wiring in accordance with wiring diagrams	yes <input type="checkbox"/>	no <input type="checkbox"/>
7	No damage to operating equipment	yes <input type="checkbox"/>	no <input type="checkbox"/>

1. Physically check, count and show pages of schematic diagrams available to supervising board member.
2. Physically shake, move, all electrical components in the cabinet, on the assembly grid a control box
3. Check all earth ground connections with a DMM and by hand, explain your checks
4. Remove all covers and look for loose or exposed wires – spot checking and pulling on wires from the terminal box
5. Check for loose or exposed wires in wire ways and on the assembly grid
6. Trace 1 wire loop from source to component, then back to incoming power source
7. Visually check, pointing to inspected areas looking for cracks, burns, broken parts

MECHANICAL AND METAL TRADES EXERCISES AND STUDY SESSIONS

Study Sessions

- [AMT/MT/CNC Study Session – Feb 18th, 2022 Part 1](#)
- [AMT/MT/CNC Study Session – Feb 18th, 2022 Part 2](#)
- [CNC PAL Programming Study Session Part 2 – April 22nd, 2022](#)
- [Electrical Study Session – April 27th, 2023 Recording \(YouTube\), \[Electrical Study Session – April 27th, 2023 Recording \\(YouTube\\), Part 2\]\(#\), and \[Continuity – Conductor Resistance Chart and Calculation Resistance\]\(#\)](#)
- Excerpt from Part 1 Yellow Docs [MT Ground Wire Continuity Calculation](#)
- [Grafcet Study Session Recording Jan 12, 2024 \(YouTube\)](#), and [Grafcet Study Session Recording Feb 16, 2024 \(YouTube\)](#)
- [CNC PAL Programming Study Session Feb 16, 2024 \(YouTube\)](#), and [CNC PAL Programming Study Session Feb 16, 2024 \(YouTube\)](#)

BLUE BOOK: MECHANICAL AND METAL TRADES

Blue Book Introduction



Bending



Drilling

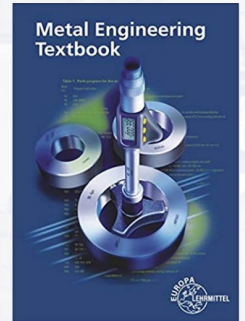
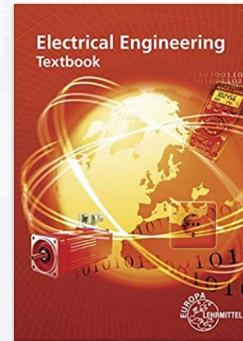
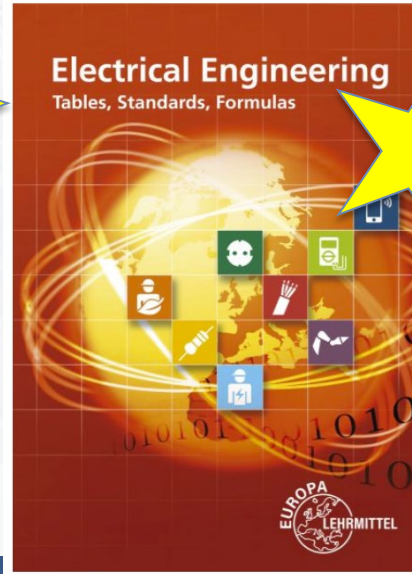
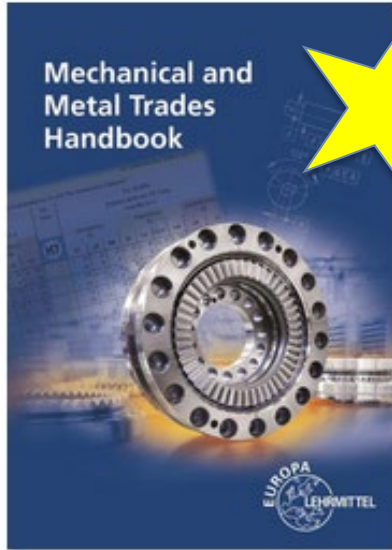


Fits



METAL AND ELECTRICAL TRADES HANDBOOKS

- The trades handbooks are allowed to be brought to the examination!
Red Electrical Engineering book - Downloadable PDF now available on the resource page under “general exam resources”



The Textbooks are not allowed at the exam but can be a great resource.

“TESTINVITE”

**Sponsored by:
The German American Education and Apprenticeship
Foundation**

No additional cost to companies.

**Apprentices received access link to personal emails with
demo video yesterday Oct 23.**

**Trainers received an email with their user access information
yesterday Oct 23.**





👤 Hello, GACC test

AMT Part 2 Functional Analysis PRACTICE Exam 2022

Remaining rights: 3

START

AMT Part 2 Production Technology PRACTICE Exam 2022

Remaining rights: 3



👤 Hello, GACC test

AMT Part 2 TFA PRACTICE Exam 2024

Remaining rights: 3

AMT Part 2 PT PRACTICE Exam 2024

Remaining rights: 3

AMT Part 1 PRACTICE Exam 2022

Remaining rights: 3

START

AMT Part 1 PRACTICE Exam 2024

Remaining rights: 3

START

“TESTINVITE” –
START PAGE

“TESTINVITE” – THEORETICAL QUESTIONS

Test Index <

Section #1

- Page 1
- Page 2 (1)Δ ⓘ 0 / 5
- Page 3 (3)Δ ⓘ 0 / 5
- Page 4 (1)Δ ⓘ 0 / 5
- Page 5 (3)Δ ⓘ 0 / 5
- Page 6 ⓘ 0 / 4
- Page 7 ⓘ 0 / 4

Section #2

Answered: 0 / 42

Progress: 24%

Total	Correct	Incorrect
42	0	0

Settings

Save

Finish test

Close

AMT Part 2 TFA PRACTICE Exam 2024

Section 1 / 2 : Multiple Choice - This set of test questions relates to the drawing set of the shaft-mounted gearbox, Sheet 1(3) to Sheet 3(3).

Page 5 / 7 : This set of test questions relates to the drawing set of the shaft-mounted gearbox, Sheet 1(3) to Sheet 3(3) found under the gray document icon to the left of the questions.

19 Mandatory!

Calculate by how much the diameter of the clamping sleeve (Item No. 7) decreases in mm when the fastener (Item No. 9) is tightened by two turns and the cone taper is 1:20.

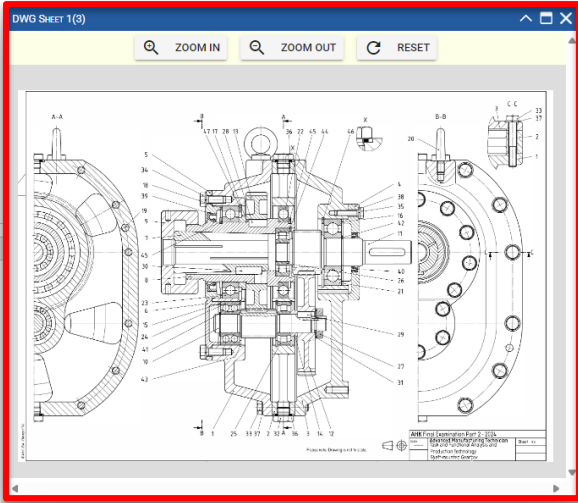
- 0.01 mm
- 0.10 mm
- 0.15 mm
- 0.20 mm
- 0.25 mm

20 Why is valve-QM2 not designed to be a 4/3-way valve?

- Because the required piston force during forming is low
- Because the pistons are supposed to retract in the de-energized state at -MB3
- Because this is supposed to achieve a higher piston force during extension
- Because the flow resistance should be as low as possible
- Because the load is supposed to be removed from pump-GP2

DWG SHEET 1(3)

ZOOM IN ZOOM OUT RESET



Mark

Mark for review

CHECK MY ANSWERS

REMINDERS!

Trainers and apprentices! Your assignment after this:

1. **By Thurs. Nov. 6, 2025:** Complete the Exam registration and return to Geneva Scurek@gaccmidwest.org
2. **Download the Exam Prep Checklist PDF** from the resource page and start reviewing theoretical resources such as “testinvite” Q’s, Blue Book exercises and videos on the resource page.
3. **Prepare to complete a MOCK Written and Practical Exam** – trainers review the recorded videos on conducting a mock exam for your occupation; together determine a timeline to be able to complete them mock exam by the end of Feb.
4. **Download the 2026 Exam Events and Important Dates PDF** from the resource page and mark your calendar for additional events...
 1. Dec 18 – Conducting a Mock exam Q&A for Trainers and Apprentices
 2. Feb 26 – Mandatory Practice exam feedback form due
 3. March 13 – Distribution Day and Q&A
 4. Exam Dates....and more



Q & A

ICATT

APPRENTICESHIP
PROGRAM

TRAIN.RETAIN.GROW.



THANK YOU!

Geneva Scurek | Scurek@gaccmidwest.org

ICATT

APPRENTICESHIP
PROGRAM
TRAIN.RETAIN.GROW.