WISCONSIN—YOUTH APPRENTICESHIP

Agriculture Mechanic Technician

Youth Apprenticeship

AGRICULTURE MECHANIC TECHNICIAN

Agriculture Mechanic Technician youth apprentices gain skills related to the maintenance and repair of agricultural equipment including use of tools, materials, engines, parts, diagnostic tools, welding, hydraulics, electronics, and documentation. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One or two years

REQUIRED COMPETENCIES

Youth apprentices must become proficient in both general employability and occupation-specific competencies. All of these, and examples of how each can be demonstrated, are found in the following pages. **Year 1**: All 13 of the required competencies plus 3 of the additional competencies must be learned for this occupation. **Year 2**: All 13 of the required competencies plus 10 of the additional competencies (including previously completed Year 1 additional competencies) must be learned. Employers may substitute out one of the competencies and should write in the competency they are adding. Youth apprentices must be evaluated on these competencies at least two times each year of their apprenticeship.

	Agriculture Mechanic To	echnician Competencies
	Required Occupational Competencies	Additional Competencies
1.	Select correct hand tools and light duty	14. Look up parts
	power tools required for job	15. Use specific diagnostic tools
2.	Operate hand tools, light duty power tools	16. Cut metal using an oxyacetylene torch and
	and stationary tools safely	plasma arc torch
3.	Maintain a safe work environment	17. Interpret hydraulic symbols and flow on a
4.	Use fasteners correctly	schematic drawing
5.	Handle and store oils, grease, chemicals,	18. Maintain and repair basic hydraulic systems
	cleaners, solvents, etc. according to the	19. Inspect hydraulic components
	Material Safety Data Sheet (MSDS)	20. Repair and maintain system components
6.	Test and maintain engines	21. Interpret electrical symbols and wiring
7.	Operate, maintain, and repair engines and	schematics
	equipment safely	22. Apply basic electrical theory
8.	Perform pre-inspection of equipment components	23. Repair failed components and/or repair of wiring
9.	Setup equipment and machinery	24. Inspect and diagnose electrical/electronic
10	. Retrieve diagnostic trouble codes	components
11	. Check fluid levels and lubricate machinery and equipment	25. Maintain and repair electrical/electronic components
12	. Maintain vehicle and machinery appearance and cleanliness prior to inspection delivery	26. Troubleshoot and install instrumentation and data acquisition system

Agriculture Mechanic Technician Competencies				
Required Occupational Competencies	Additional Competencies			
13. Complete written documentation of work performed, and parts used	27. Dismantle defective machines and equipment28. Reassemble machines and equipment29. Calibrate and monitor equipment			

REGISTERED APPRENTICESHIP BRIDGING OPPORTUNITIES

Some of the related instruction courses can bridge into the following registered apprenticeship:

- Diesel Mechanic
- Maintenance Mechanic

POST-SECONDARY PATHWAY OPPORTUNITIES

There are several post-secondary pathway opportunities in this area. The following is a partial list.

- Mechanical Maintenance Technical Diploma
- Agronomy Technician



Agriculture Mechanic Technician

Youth Apprenticeship

ON-THE-JOB LEARNING PERFORMANCE STANDARDS GUIDE

YOUTH APPRENTICE INFORMATION	N
Youth Apprentice Name	
YA Coordinator	
YA Consortium	
School District	
SIGNATURES	
The On-the-Job Learning Performance Standar	ds Guide includes a list of competencies youth
apprentices learn through mentoring and train	ing at the worksite.
should be reviewed with the employer/mentor the youth apprentice to record progress and p competencies. Mentors, school-based/YA coor	ors and School-Based or YA coordinators: This document r, school-based or YA coordinator on a regular basis with lan future steps to ensure completion of the required rdinator, and the apprentice sign below. ployer/Mentor
1 st Evaluation (Required)	2 nd Evaluation (Required)
Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed
3 rd Evaluation (Optional)	4th Evaluation (Optional)
Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed

School-Based and/or YA Coordinator

1st Evaluation (Required)

2nd Evaluation (Required)

School-Based and/or YA Coordinator Signature	School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator	School-Based and/or YA Coordinator
School District or Organization	School District or Organization
Date Signed	Date Signed

3rd Evaluation (Optional)

4th Evaluation (Optional)

School-Based and/or YA Coordinator Signature	School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator	School-Based and/or YA Coordinator
School District or Organization	School District or Organization
Date Signed	Date Signed

Youth Apprentice

1st Evaluation (Required)

2nd Evaluation (Required)

Youth Apprentice Signature	Youth Apprentice Signature
Youth Apprentice	Youth Apprentice
School District / High School	School District / High School
Date Signed	Date Signed

3rd Evaluation (Optional)

4th Evaluation (Optional)

Youth Apprentice Signature	Youth Apprentice Signature
Youth Apprentice	Youth Apprentice
School District / High School	School District / High School
Date Signed	Date Signed

EMPLOYABILITY SKILLS (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

All youth apprentices must demonstrate the key employability skills listed below in order to complete the YA program. They do so by earning at least a "Meets Expectation" rating in each. **At least two evaluations are required each year of a youth apprenticeship.** More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision;
	rarely displays this behavior
2	Meets Expectations: Meets entry-level criteria; requires some supervision; often displays this
	behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently
	displays this behavior

	Employability Skills		Rat	ing	
	Competency and Rating Criteria	Initial	Mid Year 1	Mid Year 2	Final
1.	 Develops positive work relationships with others. Examples of qualities and habits that the employee might exhibit include: Interacts with others with respect and in a non-judgmental manner Responds to others in an appropriate and non-offensive manner Helps co-workers and peers accomplish tasks or goals Applies problem-solving strategies to improve relations with others When managing others, shows traits such as compassion, listening, coaching, team development, and appreciation 	□ 1 □ 2 □ 3	□ 1 □ 2 □ 3	□1 □2 □3	☐ 1 ☐ 2 ☐ 3
2.	Communicates effectively with others Examples of qualities and habits that the employee might exhibit include Adjusts the communication approach for the target audience, purpose, and situation to maximize impact Organizes messages/information in a logical and helpful manner Speaks clearly and writes legibly Models behaviors to show active listening Applies what was read to actual practice Asks appropriate questions for clarity	☐ 1 ☐ 2 ☐ 3			
3.	 Collaborates with others Examples of qualities and habits that the employee might exhibit include Works effectively in teams with people of diverse backgrounds regardless of sex, race, ethnicity, nationality, sexuality, religion, political views, and abilities Shares responsibility for collaborative work and decision making Uses the problem-solving process to work through differences of opinion in a constructive manner to achieve a reasonable compromise Avoids contributing to an unproductive group conflict Shares information and carries out responsibilities in a timely manner 	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3

Employability Skills		Rat	ing	
Competency and Rating Criteria	Initial	Mid Year 1	Mid Year 2	Final
 4. Maintains composure under pressure Examples of qualities and habits that the employee might exhibit include Uses critical thinking to determine the best options or outcomes when faced with a challenging situation Carries out assigned duties while under pressure Acts in a respectful, professional, and non-offensive manner while under pressure Applies stress management techniques to cope under pressure 	□ 1	□ 1	☐ 1	□1
	□ 2	□ 2	☐ 2	□2
	□ 3	□ 3	☐ 3	□3
 Demonstrates integrity Examples of qualities and habits that the employee might exhibit include Carries out responsibilities in an ethical, legal and confidential manner Responds to situations in a timely manner Takes personal responsibility to correct problems Models behaviors that demonstrate self-discipline, reliability, and dependability 	□ 1	□ 1	☐ 1	□1
	□ 2	□ 2	☐ 2	□2
	□ 3	□ 3	☐ 3	□3
 6. Performs quality work Examples of qualities and habits that the employee might exhibit include Carries out written and verbal directions accurately Completes work efficiently and effectively Performs calculations accurately Conserves resources, supplies, and materials to minimize costs and environmental impact Uses equipment, technology, and work strategies to improve workflow Applies problem-solving strategies to improve productivity Adheres to worksite regulations and practices Maintains an organized work area 	☐ 1	☐ 1	☐ 1	☐ 1
	☐ 2	☐ 2	☐ 2	☐ 2
	☐ 3	☐ 3	☐ 3	☐ 3
 Provides quality goods or services (internal and external) Examples of qualities and habits that the employee might exhibit include Shows support for the organizational goals and principles by own personal actions Displays a respectful and professional image to customers Displays an enthusiastic attitude and desire to take care of customer needs Seeks out ways to increase customer satisfaction Produces goods to workplace specifications 	□1	□1	□ 1	□ 1
	□2	□2	□ 2	□ 2
	□3	□3	□ 3	□ 3
 8. Shows initiative and self-direction Examples of qualities and habits that the employee might exhibit include Prioritizes and carries out responsibilities without being told Responds with enthusiasm and flexibility to handle tasks that need immediate attention Reflects on any unsatisfactory outcome as an opportunity to learn Improves personal performance by doing something different or differently Analyzes how own actions impact the overall organization Supports own action with sound reasoning and principles Balances personal activities to minimize interference with work responsibilities 	☐ 1	☐ 1	☐ 1	☐ 1
	☐ 2	☐ 2	☐ 2	☐ 2
	☐ 3	☐ 3	☐ 3	☐ 3

Employability Skills		Rat	ing	
Competency and Rating Criteria	Initial	Mid	Mid	Final
		Year 1	Year 2	
9. Adapts to change	□ 1	□ 1	□ 1	□ 1
Examples of qualities and habits that the employee might exhibit include Shows flexibility and willingness to learn new skills for various job roles	□ 2	2	□ 2	□ 2
Uses problem-solving and critical-thinking skills to cope with changing	☐ 3	☐ 3	☐ 3	☐ 3
circumstances				
 Modifies own work behavior based on feedback, unsatisfactory outcomes, 				
efficiency, and effectiveness				
Displays a "can do" attitude				
10. Demonstrates safety and security regulations and practices	<u> </u>	□ 1	□ 1	□ 1
Examples of qualities and habits that the employee might exhibit include		<u> </u>	<u> </u>	 2
Follows personal safety requirements			□ ² □ 3	□3
Maintains a safe work environment			🗆 🤊	
Demonstrates professional role in an emergency Tallows accounts proceedings.				
Follows security proceduresMaintains confidentiality				
Maintains confidentiality				
11. Applies job-related technology, information, and media	□ 1	□ 1	□ 1	□ 1
Examples of qualities and habits that the employee might exhibit include	□ 2	□ 2	□ 2	□ 2
Applies technology effectively in the workplace Assessed and hostest information and he is to	☐ 3	3	3	3
Assesses and evaluates information on the job Assesses training manuals, website, and other media related to the job				
Assesses training manuals, website, and other media related to the job				
12. Fulfills training or certification requirements for employment	□ 1	□ 1	□ 1	□ 1
Examples of this requirement may include	□ 2	□ 2	□ 2	□ 2
Participation in required career-related training and/or educational programs Passing a partification to the graph of the programs and the partification.	□ 3	□ 3	□3	□3
 Passing certification tests to qualify for licensure and/or certification Participation in company training or orientation 				
Participation in company training or orientation				
13. Sets personal goals for improvement	□ 1	□1	□1	□1
Examples of this requirement may include	2			 2
Setting goals that are specific and measurable		☐ 3		3
Setting work-related goals that align with the organization's mission				
Identifying strategies to reach goals				
Reflecting on goal progress to regularly evaluate and modify goals				

OCCUPATIONAL COMPETENCIES (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

Youth apprentices must earn a rating of at least "MEETS EXPECTATIONS" in each competency by the conclusion of the apprenticeship. Year 1: All the required competencies plus 3 of the additional competencies. Year 2: All the required competencies plus 10 of the additional competencies (including previously completed Year 1 additional competencies). Employers can substitute 1 competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. At least two evaluations are required each year of a youth apprenticeship. More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision; rarely displays this behavior
2	<i>Meets Expectations:</i> Meets entry-level criteria; requires some supervision; often displays this behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently displays this behavior

Occupational Competencies		Ratir	ngs	
Competency and Rating Criteria	Evaluation Minimum Rating of 2 for EACH Check Rating Mid Mid Final			
Select correct hand tools and light duty power tools required for job		Year 1		
 use correct hand tools in a safe and appropriate manner identify capabilities and limitations of hand tools identify capabilities and limitations of power tools identify worn, damaged, or abused tools 	☐ 1 ☐ 2 ☐ 3	Year 1 F	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3
verify equipment safety procedures	Year 2 Rating			
 identify proper personal protective equipment (PPE) needed for tool/equipment use handle and store tools properly 	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3

	Occupational Competencies	Ratings			
	·	Evaluation			
		Minimu	-	g of 2 for	EACH
	Competency and Rating Criteria		Check F		T
		Initial	Mid	Mid	Final
2.	Operate hand tools, light duty power tools and stationary tools safely		Year 1	Year 2	
۷.	 operate hand tools, light duty power tools and stationary tools safely operate tool/equipment trained to use 		Year 1 F		
	 operate tool/equipment with guarding devices in manner required 	∐ 1	□ 1	∐1	∐ 1
	for job task	<u></u>	<u></u>	<u></u>	<u></u>
	 inspect tool/equipment and work area for safety considerations 	3	3	3	3
	 demonstrate general safety rules for operating all power tools 		Year 2 F	Rating	
	follow tool checklist	□ 1	□ 1	□ 1	□ 1
	 verify tool/equipment is available for use and in working order 	□ 2	□ 2	☐ 2	☐ 2
	 verify tool/equipment is current for preventative maintenance and/or calibration 	□ 3	□ 3	□3	□ 3
	• wear the required personal protective equipment (PPE) at all times				
	 as required for the operation of the tool/equipment monitor tool/equipment for safe operation during use 				
	 document use and maintenance as required 				
	shut down tool/equipment according to proper use				
	 report abnormal tool/equipment conditions or failures in 				
	operation				
	perform required preventative maintenance procedures				
3.	Maintain a safe work environment		Year 1 F	Rating	
	 inspect tools and work area for safety considerations 	□ 1	□ 1	□ 1	□ 1
	comply with posted safety warnings and symbols	□ 2	□ 2	□ 2	□ 2
	identify unsafe conditions and/or work habits and	_ 3	_ 3	_ 3	3
	 report unsafe conditions to the worksite professional immediately help maintain a clean and safe working environment free of debris 		Year 2 F	Rating	
	and obstacles	□ 1	□ 1	1	□ 1
	 dispose of waste and recyclable materials properly 	□ -	☐ -	□ - □ 2	□ -
	 store materials and tools properly 	□-	☐ 3	□ -	
	• follow facility procedures for clean-up and shut down after use				
	 clean light fixtures to ensure proper lighting 				
	• store tools and equipment properly				
	clean and dry floors				
	 follow general shop housekeeping procedures 				

Occupational Competencies		Ratings			
·		Evalua	tion		
	Minimu	ım Rating	g of 2 for	EACH	
Competency and Rating Criteria		Check F	Rating		
. , ,		Mid	Mid		
	Initial	Year 1	Year 2	Final	
4. Use fasteners correctly		Year 1 F	Rating		
 identify correct fasteners for task (screws, bolts, nuts, washers, 	□ 1	□ 1	□1	□ 1	
keys, snap rings, pins, and studs)					
 select correct tools/equipment to adjust fasteners 	<u></u>	<u> </u>	<u></u>	<u>□</u> 2	
 measure bolt and nut length, diameter, and thread types 	∐ 3	□ □ 3	∐ 3	3	
accurately					
 extract broken bolts properly 		Year 2 F	Rating		
 restore internal and external threads properly 	□ 1	□ 1	□ 1	□ 1	
	 2		 2		
	□ - □ 3		□ - □ 3		
	3	🗆 3	3	🗆 🍮	
5. Handle and store oils, grease, chemicals, cleaners, solvents, etc.		Year 1 F	Patina]	
according to the Material Safety Data Sheet (MSDS)					
 safely Identify, handles, Store, and uses materials according to 	∐1	□ 1	∐ 1	□ 1	
company procedure, if applicable	□ 2	□ 2	☐ 2	□ 2	
review MSDS sheet to identify hazardous materials	□ 3	☐ 3	☐ 3	☐ 3	
 perform the approved storage procedures for flammable materials 					
found in repair facilities		Year 2 F	Rating		
 dispose of hazardous materials following safety procedures 	□ 1	□ 1	□1	□ 1	
 wear appropriate personal protective equipment (PPE) 	□ - □ 2		□ <u>-</u> □ 2	☐ 2	
	∐ 3	∐3	∐3	3	
6. Test and maintain engines		Year 1 F	Rating		
 determine appropriate inspections and test(s) to perform based on 	□1			□ 1	
customer concern					
assist with repair using parts manual	□ 2	2	<u></u>	<u>□</u> 2	
 develop a preventative maintenance schedule for equipment 	□ 3	□ 3	□ 3	□ 3	
 adjust equipment for safe and efficient operation 					
 determine the cost of routine equipment maintenance 		Year 2 F	Rating	1	
 apply service-related information, including service bulletins, 	□ 1	□ 1	□ 1	□ 1	
manuals, and parts catalogues	□ 2	□ 2	□ 2	□ 2	
	□ 3	□3	□ 3	□ 3	
				1	

Occupational Competencies		Ratir	ngs	
· · ·		Evalua	_	
	Minimu	ım Ratinş	g of 2 for	EACH
Competency and Rating Criteria		Check R	Rating	
	1!4!	Mid	Mid	F!
	Initial	Year 1	Year 2	Final
7. Operate, maintain, and repair engines and equipment safely		Year 1 F	Rating	
 assist with follow up on repaired equipment to ensure that 	□ 1	□ 1	□ 1	□ 1
corrective action solved the problem	□ - □ 2		☐ 2	
 assist with the investigation of abnormal equipment conditions in a 		_		
timely manner	∐ 3	3	3	
 follow tool/equipment repair manual 		Year 2 F		
 follow safety precautions when operating, servicing, and 				
maintaining machines and equipment	□ 1	□ 1	□ 1	□ 1
 research vehicle and service information, vehicle service history, 	2	□ 2	□ 2	□ 2
service precautions, and technical service bulletins	 ☐ 3	3	 ☐3	
 verify operation of the instrument panel engine warning indicators 				
 review equipment quality measures for trends and problems 				
 compare current equipment performance to optimal equipment 				
operations				
 report noted deviations from expected performance 				
 document all monitoring activities 				
8. Perform pre-inspection of equipment components		Year 1 F	Rating	
 complete a visual inspection 	□ 1	□ 1	□ 1	□ 1
 determine appropriate inspections and test(s) to perform based on 	□ 2	□2	□2	□ 2
customer concern	 		 3	 3
 check for operation and leaks of hoses, lines, valves, and nozzles 				
 identify information needed and the service requested on a repair 		Year 2 F		<u> </u>
order				
 locate repair parts, using catalogs, microfiche, and computers. 	<u></u>		□ 1	<u> </u>
 review vehicle service history 	□ 2	□ 2	□ 2	2
	□ 3	□ 3	□ 3	☐ 3
9. Setup equipment and machinery		Year 1 F	Rating	
organize workspace	□ 1	□ 1	□ 1	□ 1
 verify equipment is available for use and in working order 	□2	□2	□2	□ 2
 verify equipment is current for preventative maintenance and/or 	_ 3	_ ☐3	 3	_ 3
calibration				
 stage pieces and materials for assembly assemble and adjust tools and equipment as required 		Year 2 F	l Rating	
 assemble and adjust tools and equipment as required document service completed 				
• document service completed	∐1 □2			
	<u></u>	<u> </u> 2	<u></u>	│ ∐ ²
	∐ 3		3	∐ 3

Occupational Competencies	Ratings			
·		Evalua		
	Minimum Rating of 2 for EACH			EACH
Competency and Rating Criteria		Check F	Rating	
		Mid	Mid	
	Initial	Year 1	Year 2	Final
10. Retrieve diagnostic trouble codes		Year 1 F	Rating	•
 connect diagnostic software to equipment 	□ 1	□ 1	□ 1	□ 1
 operate different types of service software 	□ - □ 2		□ <u>-</u> 2	
 verify connection to software and equipment using manual 				
 use general computer skills 	3		∐ 3	3
 toggle between screens using software 				
 interpret readings to icons 		Year 2 F	Rating	
 verify math and make conversions when appropriate 	□ 1	□ 1	□ 1	□ 1
 perform procedures as indicated by the service software 	□2	□2	□2	□ 2
	 3		 3	
11. Check fluid levels and lubricate machinery and equipment		Year 1 F		
review manufacturer safety and service procedures		I		
determine the type of lubricant recommended based on original	□ 1	<u></u>	□ 1	
equipment manufacturer (OEM) requirements	2	│	□ 2	│
identify importance of oil analysis as a management tool	☐ 3	☐ 3	☐ 3	☐ 3
replace torn or missing seals				
apply grease to each fitting and wipe away access		Year 2 F	Rating	
• inspect fluid levels using dipstick	□ 1	□ 1	□1	□ 1
• change oil filters	□ -		□ <u>-</u> 2	
verify work and adjust				
	3	∐3	∐ 3	3
12. Maintain vehicle and machinery appearance and cleanliness prior to		Year 1 F	Rating	I
inspection delivery	□ 1	□ 1	1	□ 1
 install shields and hoods 	_		☐ 2	
 verify machinery is washed and prepped 	<u></u>	<u> </u>		
 inspect cleanliness of the cab 	3	□ 3	□ 3	3
 assure windows are clean 				
 verify that there are no external leaks from the 		Year 2 F	Rating	
machinery/equipment	□ 1	□ 1	□ 1	□ 1
 follow any company procedures condition Report 	□ 2	□ 2	□ 2	□ 2
	□3	□ 3	П3	
13. Complete written documentation of work performed, and parts used		Year 1 F	Rating	
identify the purpose and importance of keeping records				
 demonstrate procedures for keeping records of equipment 	<u></u>		☐ 1	
maintenance and services	<u></u>	2	<u></u>	<u></u>
document customer concern on repair order	3	3	∐ 3	3
 verify work orders, service invoices, and requisitions 				
prepare a written cost estimate of repair work		Year 2 F	Rating	
 document parts used for service repair 	□ 1	1	□ 1	□ 1
	☐2 ☐3		□ 2	□3
		╷╶		╷╚

Occupational Competencies	Ratings			
	Evaluation			
	Minimu		g of 2 for	EACH
Competency and Rating Criteria	Check Rating			
	Initial	Mid Year 1	Mid Year 2	Final
Competency Substitute (if you replaced a competency above, note the		Year 1 F	Rating	
competency and rating)	□ 1	□ 1	□ 1	□ 1
	 2	_ 2	_ 2	 2
	 3	 3	 3	 3
		Year 2 F	Rating	
	1	□ 1	□ 1	□ 1
	2	□ 2	<u> </u>	☐ 2
	☐ 3	□ 3	□ 3	□ 3
Community				
Comments:				

ADDITIONAL OCCUPATIONAL COMPETENCIES (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

Additional Occupational Competencies		Rati	ngs	
		on Minin		-
Competency and Rating Criteria	for	EACH Ch		ıg
competency and naming enterna	Initial	Mid Year 1	Mid Year 2	Final
14. Look up parts		Year 1 I		
 locate repair parts, using catalogs, microfiche, and computers 	1	□ 1	1	1
 collect necessary information to determine part requirements 	□ 1 □ 2		☐ 2	☐ <u>1</u>
 locate and accesses serial numbers 	☐ 2		☐ 2 ☐ 3	
 identify section and component location on machinery/equipment 	3	🗆 🌣	3	3
review previous repair orders		Voor 2 I	Datina	
perform basic computer operation		Year 2 I		
write up request for parts order	∐ 1	□ 1	∐1	
 maintain agriculture mechanics business records 	□ 2	□ 2	<u></u>	2
	□ 3	∐3	∐ 3	3
15. Use specific diagnostic tools		Voor 1 I	Pating	
verify the causes of concerns with stored or active diagnostic		Year 1 I		
trouble codes	∐ 1			
obtain, graph, and interpret scan tool data	∐ 2		□ 2	□ 2
 determine necessary action 	∐ 3		3	3
 inspect computerized engine control system sensors 				
 test computerized engine control system sensors 		Year 2 I	Rating	
	□ 1	□1		□ 1
	☐ 2	□ 2	□ 2	□ 2
	☐ 3	□ 3	☐ 3	□ 3
16. Cut metal using an oxyacetylene torch and plasma arc torch		Year 1 I	Rating	Γ
 operate all welding and cutting equipment safely interpret drawings and welding symbols 	□ 1	□1	□ 1	□ 1
 select appropriate welding and cutting tips for specific applications 	□ 2	□ 2	□ 2	□ 2
 diagnose equipment failure 	□ 3	□ 3	□ 3	□ 3
 set up, adjust, operate, and shut down oxy-fuel, welding and 				
brazing equipment for a given job		Year 2 I	Rating	Г
 lay out and prepare metals for welding 	□ 1	□ 1		□ 1
cut metal to specifications	□ 2	□ 2	□ 2	□ 2
heat metal parts to assist removal	☐ 3	☐ 3	□ 3	☐ 3
perform start up and shut down of equipment would basis joints in various positions				
 weld basic joints in various positions 				
		1	1	Í

Additional Occupational Competencies	Ratings			
·	Evaluati		num Ratir	ng of 2
Competency and Pating Critoria	for	EACH Ch	eck Ratin	g
Competency and Rating Criteria	Initial	Mid	Mid	Final
	IIIICIAI	Year 1	Year 2	
17. Interpret hydraulic symbols and flow on a schematic drawing	Year 1 Rating			
identify basic hydraulic components	□ 1	□ 1	□ 1	□ 1
inspect operation of hydraulic circuit	□ 2	□ 2	□ 2	□ 2
verify basic hydraulic component functions	_ 3	_ 3	_ 3	 3
identify essential safety practices related to the operation of				_
agriculture equipment using hydraulics		Year 2 F	Pating	
 perform routine service and maintenance using appropriate service manuals 		Teal 21	vacing	
 reference the service manual for correct schematic of component 	□ 1	□ 1	□ 1	□ 1
• Tereferice the service mandar for correct schematic or component	□ 2	□ 2	2	2
	□ 3	□ 3	□ 3	□ 3
18. Maintain and repair basic hydraulic systems		Year 1 F	Rating	
 review equipment specifications (relief valve pressures, pump 	□ 1	□ 1	□ 1	1
output, engine revolutions per minute (rpm), and operating	 □2	 □2	_ 2	
temperature) to accurately test the system		 □3	 □3	. □3
• comply with personal safety practices concerning clothing, tool				
 usage, proper ventilation of fumes and securing machining inspect system for temperature, pump flow, pressure tests, 		Year 2 F		
leakage etc.	□1	□1		□ 1
 use a pressure and flow tester in diagnosing malfunctions and 				
repairing hydraulic system	2	∐ 2 □ 2		
 perform all procedures according to manufacturing requirements 	□ 3	∐ 3	∐ 3	∐ 3
19. Inspect hydraulic components		Year 1 F	Rating	
 complete visual inspection to identify customer complaint based 	□ 1	□ 1	□ 1	□ 1
on how the system is supposed to operate	□2	□2	□2	□ 2
• consult with worksite professional to determine appropriate	_ 3	_ 3	_ 3	_ 3
inspection and test(s) to perform based on customer concern				_
 compare test to manufacturer specifications perform tests according to manual procedures 		Year 2 F	Rating	
 verify an accurate diagnosis of the problem 	□ 1	□ 1	□ 1	1
 wear appropriate personal protective equipment (PPE) when 	_ 2	_ 2	_ 2	
checking for leaks		 □3	 □3	
 properly uses safety equipment appropriate to working conditions 				
 adjust pressure control and relief valves 				
measure pressure within hydraulic system				
 measure flow within hydraulic system 				
 diagnose hydraulic failure 				
 prepare for service or cleanup work area, return tools to proper location 				
 complete appropriate documentation 				 -
				 -

Additional Occupational Competencies		Ratir	ngs		
·	Evaluati	Evaluation Minimum Rating of 2			
Competency and Rating Criteria	for	EACH Ch	eck Ratin	g	
competency and Rating Criteria	Initial	Mid	Mid	Final	
		Year 1	Year 2	L	
20. Repair and maintain system components		Year 1 F	Rating		
 consult with worksite professional to determine appropriate inspection and test(s) to perform based on customer concern 	□1 □2	☐ 1 ☐ 2	□ 1 □ 2	□1 □2	
 retrieve shop manuals and/or electronic retrieval systems change filters and drain, flush, and refill the hydraulic system 	□3	□ 3	□ 3	□ 3	
 repair and replace parts of the system according to manufacturing procedures and specifications 		Year 2 F	Rating		
 verify service and adjust the system for proper operation 	□ 1	□ 1	□ 1	□ 1	
 check fluid levels and condition 	□ 2	□ 2	□ 2	□ 2	
 change hydraulic fluids 	□3	□3	□ 3	□ 3	
 inspect system for external leaks and correct where necessary clean and flush system based on MFG specifications and 					
recommendations maintain cleanliness during repair					
				<u> </u>	
 21. Interpret electrical symbols and wiring schematics locate and inspect sensors and monitoring systems 	<u> </u>	Year 1 F	Rating		
examine electrical circuits	∐1		□ 1	∐ 1	
 interpret drawings and symbols in service manuals 	□ 2	□ 2	□ 2	2	
 apply information from schematics to identify flow through circuit current 	□ 3	3	□ 3	□ 3	
 test and troubleshoot electrical systems and components 		Year 2 F	Rating		
	□ 1	□ 1	<u> </u>	1	
	<u> </u>	2	2	2	
	□3	3	3	3 	
22. Apply basic electrical theory		Year 1 F	Rating		
 identify components in machinery that use electrical components 	□ 1	□ 1	□ 1	□ 1	
 examine machines that use DC currents 	□ 2	□ 2	□ 2	□ 2	
 operate tools and equipment to measure electrical output 	 ∏3	 □3	 	 3	
		Year 2 F	Rating		
	□ 1	□ 1	□ 1	□ 1	
	□ 2	□ 2	□ 2	□ 2	
	□ 3	☐ 3	□ 3	☐ 3	
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Additional Occupational Competencies	Ratings			
	Evaluati	Evaluation Minimum Rating of 2		
Competency and Rating Criteria	for	EACH Ch	eck Ratin	g
competency and nating effectia	Initial	Mid	Mid	Final
22 Description of the second of		Year 1	Year 2	
23. Repair failed components and/or repair of wiring		Year 1 I	Rating	Г
 interpret a circuit diagram to trouble shoot an electrical problem test electrical and electronic sensing devices 	□ 1	□ 1	□ 1	
 test electrical and electronic sensing devices locate the parts to be tested for electrical problems 	□ 2	☐ 2	□ 2	□ 2
use instruments to measure Ohms, amps, and volts	□ 3	□ 3	□ 3	☐ 3
use instruments to measure offins, amps, and voits		Year 2 I	Rating	
	□ 1	□ 1	□ 1	□ 1
	☐ 2	☐ 2	□ <u>-</u> 2	☐ 2
		□ -	□ -	□ -
24. Inspect and diagnose electrical/electronic components		Year 1 I		
complete visual inspection to identify customer complaint based		I		
on how the system is supposed to operate		□ 1	∐1	
 consult with worksite professional to determine appropriate 	2	<u> </u> 2	<u></u>	<u> </u>
inspection and test(s) to perform based on customer concern	3	∐3	3	□ 3
 compare test to manufacturer specifications 				
 perform tests according to manual procedures 		Year 2 I	Rating	
 verify an accurate diagnosis of the problem 	□ 1	□ 1	□ 1	□ 1
 wear appropriate personal protective equipment (PPE) when 	□ 2	□ 2	□ 2	□ 2
checking for leaks.	□3	□ 3	3	□ 3
 use safety equipment appropriate to working conditions 				
prepare for service or cleanup work area, returns tools to proper				
location				
 complete appropriate documentation 				
25. Maintain and repair electrical/electronic components		Year 1 l	Rating	
repair common failures related to electrical components		□ 1	1	□ 1
obtain equipment and materials needed				
 repair switches, connectors, relays, solenoid devices for proper 	<u> </u> 2	<u> </u>		<u> </u> 2
operation as needed	3	□ 3	3	3
 repair the wires to ensure proper connection and wearing, 				
rubbing, or fraying		Year 2 I	Rating	
inspect devices and wires during maintenance and repairs				
clean-up work area and return tools to proper location	□ 1	1	1	
 complete appropriate documentation 	□ 2	□ 2	□ 2	2
	□ 3	☐ 3	□ 3	☐ 3

Additional Occupational Competencies	Ratings			
·	Evaluation Minimum Rating of 2			
Competency and Rating Criteria	for EACH Check Rating			g
Competency and Nating Criteria	Initial	Mid	Mid	Final
		Year 1	Year 2	
26. Troubleshoot and install instrumentation and data acquisition	Year 1 Rating			
system • complete visual inspection to identify customer complaint based	□ 1	□ 1	□ 1	□ 1
 complete visual inspection to identify customer complaint based on how the system is supposed to operate 	□ 2	□ 2	□ 2	□ 2
 connect equipment to diagnostic software to evaluate potential 	□ 3	□ 3	□ 3	□ 3
errors				
 consult with worksite professional to determine appropriate 		Year 2 F	Rating	
inspection and test(s) to perform based on customer concern	□ 1	□ 1	□ 1	□ 1
 compare test to manufacturer specifications 	□ 2	□ 2	□ 2	□ 2
 perform tests according to manual procedures 	□ 3	□ 3	□3	□3
 verify an accurate diagnosis of the problem 				_
 wear appropriate personal protective equipment (PPE) when checking for leaks. 				
 uses safety equipment appropriate to working conditions 				
 clean-up work area and return tools to proper location 				i
 complete appropriate documentation 				
27. Dismantle defective machines and equipment		Year 1 F	Rating	
 examine assembled product for visual and/or dimensional 	□1	1		
specification prior to tear down				_ <u>-</u>
 prepare work area to lay out parts after disassembly 	<u></u>	<u> </u> 2	2 	
 remove parts according to proper procedure 	∐ 3		∐3	3
 examine parts for defects, such as breakage or excessive wear 				
 document part orientation and location 	<u> </u>	Year 2 F	Rating	
 maintain organization and clean work environment 	□ 1	□ 1	□1	□ 1
	□ 2	□ 2	□ 2	☐ 2
	☐ 3	☐ 3	□ 3	☐ 3
				 -
				 -
				<u> </u>

Additional Occupational Competencies	Ratings				
	Evaluati	on Minin	num Ratir	ng of 2	
Competency and Pating Critoria	for	EACH Ch	eck Ratin	g	
Competency and Rating Criteria	Initial	Mid Year 1	Mid Year 2	Final	
28. Reassemble machines and equipment		Year 1 F	Rating		
 gather equipment required to reassemble machinery and equipment study blueprints or manufacturers' manuals to determine correct 	□ 1 □ 2	□ 1 □ 2	□ 1 □ 2	□1 □2	
installation or operation of machinery	3	☐ 3 Year 2 F	3 Rating	3	
 assemble and adjust agricultural equipment, following manufacturer's direction repair or replace broken or malfunctioning components of machinery or equipment record parts or materials used and orders or requisition new parts or materials as necessary maintain organized and clean work environment verify set up meets assembly requirements and product specifications operate newly repaired machinery or equipment to verify the adequacy of repairs 	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3	☐ 1 ☐ 2 ☐ 3	
29. Calibrate and monitor equipment		Year 1 F	Rating		
 perform calibrations of metering equipment 	□1	□1		□ 1	
 assist a worksite professional with set up prior to calibration 			□ 1	□ 1	
 prepare tractors and/or equipment prior to calibration 	☐ 2	2 □ 3	□² □3	□ 2 □ 3	
verify tractor calibrations					
 assist with diagnosing monitoring systems with onboard vehicle 	Year 2 Rating				
 diagnostics perform calibration and no error codes in the software once calibration is completed 	□1 □2 □3	□1 □2 □3	□1 □2 □3	☐ 1 ☐ 2 ☐ 3	
Competency Substitute (if you replaced a competency above, note the	□1	□1	□1	□1	
competency and rating)	□ -	□ - □ 2	□ -	□ - □ 2	
	□ 2	☐ 2	☐ 2	□ ² □ 3	
		Year 2 F	Rating		
	1	□ 1			
	□ 2	□ 2	□ 2	∐2	
	∐ 3	∐ 3	3	∐ 3	

Additional Occupational Competencies		Ratings			
Competency and Rating Criteria		Evaluation Minimum Rating of 2 for EACH Check Rating			
	Initial	Mid Year 1	Mid Year 2	Fina	
Comments:	·				

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