



NEVADA LABOR COMMISSIONER  
NEVADA STATE APPRENTICESHIP COUNCIL  
2023 Non-Joint Standards of Apprenticeship

## Appendix A

### WORK PROCESS SCHEDULES AND RELATED INSTRUCTION OUTLINE

#### ***EquipmentShare***

#### **Heavy Equipment Technician**

O\*NET-SOC CODE: \_\_49-3042.00\_\_ RAPIDS CODE: \_\_\_\_\_

APPROVED BY  
THE NEVADA LABOR COMMISSIONER AND THE NEVADA STATE APPRENTICESHIP COUNCIL

\_\_\_\_\_  
Toni Giddens, Nevada State Apprenticeship Director

REGISTRATION DATE: \_\_\_\_\_

RAPIDS PROGRAM ID NUMBER: \_\_\_\_\_

DEVELOPED IN COOPERATION WITH THE  
THE NEVADA LABOR COMMISSIONER, THE NEVADA STATE APPRENTICESHIP COUNCIL AND  
THE U.S. DEPARTMENT OF LABOR

## Appendix A

## WORK PROCESS SCHEDULE

This schedule is attached to and a part of these Standards for the above identified occupation.

## 1. TYPE OF OCCUPATION

## Time-based

## Competency-based

Hybrid

## 2. TERM OF APPRENTICESHIP

The term of the occupation shall be defined by the attainment of all competencies of the position. 1) If the program uses a time-based approach, requires the completion of not less than 2,000 hours of [work experience,] on-the-job learning, consistent with training requirements as established by practice in the trade; (2) If the program uses a competency-based approach, specify the skills that must be demonstrated by an apprentice and address how on-the-job learning will be integrated into the program; or (3) If the program uses a hybrid approach, specify the skills that must be acquired and the minimum number of hours of on-the-job learning that must be completed by an apprentice.

This would be expected to occur within approximately 8,000 hours (must be at least 2,000 hours) of OJL, supplemented by the minimum of 144 hours of related instruction per year of the apprenticeship.

### 3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey worker/fully trained worker ratio is: `_1_` apprentice(s) to journey worker/fully trained worker(s).

#### 4. APPRENTICE WAGE SCHEDULE

An apprentice minimum starting wage will be at least \$ 17 per hour. Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey worker/fully trained worker wage. A journey worker/fully trained worker minimum wage will be at least \$ 25.

### 1-Year Term Example:

1<sup>st</sup>      6 months = % or \$      2<sup>nd</sup>      6 months = % or \$

Periodic review and evaluation of the apprentice's on-the-job learning and related technical instruction will be conducted in alignment with the wage schedule established.

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## 2023 Non-Joint Standards of Apprenticeship

5. **WORK PROCESS SCHEDULE** (See attached Work Process Schedule)

The sponsor may modify the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

6. **RELATED INSTRUCTION OUTLINE** (See attached Related Instruction Outline)

The sponsor may modify the related instruction to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

## Appendix A

### WORK PROCESS SCHEDULE

The term of the occupation shall be defined by the attainment of all competencies, both technical and behavioral, of the position, which would be expected and approximated to occur within **8000** hours of OJL, supplemented by a minimum of 144 hours of related instruction per year of apprenticeship.

#### Apprenticeship Competencies – Technical

#### ON-THE-JOB TRAINING

#### APPROXIMATE HOURS

##### A. ORIENTATION

1000

- Learn uses of tool and equipment
- Learn name of parts, (nomenclature) Fundamentals of engine operation Engine print studies
- Specifications, symbols, diagrams, etc
- Trade periodicals study
- Safety observance
- Remove and disassemble transmissions
- Remove and disassemble differentials
- Remove and replace motor from frame
- Terminology, diesel operation
- Fuels and lubricants

##### B. MATERIALS, PARTS (Name and Designation)

1000

Learn proper procedure:

1. main bearings
2. pistons
3. cylinder liners
4. bearing clearances
5. crankshaft
6. connecting rods

Disassembly and replacement

Remove and replace pan

Learn use of machine tools

Operation care and maintenance

Theory of job and processes

##### C. GENERAL REPAIR AND REPLACEMENT JOB

1500

1. Remove, repair and replace pan, starter and manifolds

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2. Remove, clean and replace cylinder head	
3. Remove, check and replace crankshaft, and timing	
4. Remove, check and adjust governor	
5. Replace governor	
<b>D. <u>MOTOR REPAIR, OVERHAUL OR INSTALL</u></b>	<b>1800</b>
1. Remove, check, repair and replace water pump	
2. Remove, check and replace injector system, fuel pump, pistons and piston rings, camshaft and bearings	
3. Remove, check, replace and adjust connecting rod bearings	
4. Remove, check, grind, and replace valves	
5. Remove and replace cylinder liners	
6. Assemble motor, adjust valves, check timing and test motor	
7. Adjust for proper mixture	
8. Make final test and check operation	
<b>E. <u>AIR COMPRESSORS</u></b>	<b>350</b>
1. Check pump, dismantle, repair and assemble	
2. Check tank and pressure gauge	
3. Study parts book and service manual	
<b>F. <u>GAS ENGINES</u></b>	<b>350</b>
1. Air cooled	
1. dismantle, repair and assemble	
2. Water cooled	
1. dismantle, repair and assemble	
3. Study parts book and service manual	
<b>G. <u>CONCRETE MIXERS</u></b>	<b>200</b>
1. Learn sizes	
2. Learn about moving parts	
3. Dismantle, clean, repair and assemble	
<b>H. <u>BULLDOZERS</u></b>	<b>200</b>
1. Learn types and sizes	
2. Learn names and identify moving parts	
3. Study parts book and service manuals	
<b>I. <u>GRADERS</u></b>	<b>200</b>
1. Learn types and sizes	
2. Learn names of all moving parts	
3. Study parts book and service manual	

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4.	Dismantle, repair and assemble	
J.	<u>MOTOR SCRAPERS</u>	500
1.	Oil and grease	
2.	Service engine	
3.	Learn scraper parts	
4.	Study parts book and service	
5.	Dismantle repair and assemble	
K.	<u>POWER SHOVELS</u>	400
1.	Learn types	
2.	Identify all parts and service	
3.	Study parts books and service manuals	
4.	Dismantle, repair and assemble	
L.	<u>TRUCK CRANES</u>	400
1.	Learn various types	
2.	Identify parts and service	
3.	Study service manual	
4.	Dismantle, repair and assemble	
M.	<u>WELDING</u>	100
1.	Learn use of acetylene torches	
2.	Learn to do electrical welding	
	<b>TOTAL HOURS</b>	<b>8000</b>

Item	Work Processes	Approx. Hours
A		
B		
C		
D		
E		
F		
G		

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H		
I		
J		
K		
L		
M		
N		
O		
P		
Q		
	<b>Total hours (approximate)</b>	

The above on-the-job-learning (OJL) work process competencies are intended as a guide. It need not be followed in any sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient experience to make them fully competent and use good workmanship in all work processes, which are a part of the industry. In addition, the apprentice shall be fully instructed in safety and OSHA requirements.

**Apprenticeship Competencies – Behavioral**

In addition to mastering all the essential technical competencies, an apprentice must consistently demonstrate at an acceptable level the following behavioral competencies, to complete the apprenticeship.

Item #	Behavioral Competencies
1.	Participation in team discussions/meetings
2.	Focus in team discussions/meetings
3.	Focus during independent work
4.	Openness to new ideas and change
5.	Ability to deal with ambiguity by exploring, asking questions, etc.
6.	Knows when to ask for help
7.	Able to demonstrate effective group presentation skills
8.	Able to demonstrate effective one-on-one communication skills
9.	Maintains an acceptable attendance record
10.	Reports to work on time
11.	Completes assigned tasks on time
12.	Uses appropriate language
13.	Demonstrates respect for patients, co-workers, and supervisors
14.	Demonstrates trust, honesty, and integrity
15.	Requests and performs work assignments without prompting
16.	Appropriately cares for personal dress, grooming and hygiene
17.	Maintains a positive attitude
18.	Cooperates with and assists co-workers
19.	Follows instructions/directions
20.	Able to work under supervision
21.	Able to accept constructive feedback and criticism
22.	Able to follow safety rules
23.	Able to take care of equipment and workplace
24.	Able to keep work area neat and clean
25.	Able to meet supervisor's work standards



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26.	Able to not let personal life interfere with work
27.	Adheres to work policies/rules/regulations

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**RELATED INSTRUCTION OUTLINE**

The related instruction has been developed in cooperation with employer-partners as part of the apprenticeship. The following is a set of courses to be delivered by subject matter experts.

Related Technical Instruction (RTI) - This instruction shall include, but not be limited to, at least 225 hours per year for each year of the apprenticeship. The related theoretical education listed below is tightly integrated with real work product. The curriculum is defined as a variety of classes, around which the exams and projects are based. By defining the RTI this way, all competencies required of the students are met, through project work.

**COURSE  
TOPICS****HOURS**

A.	#
B.	#
C.	#
D.	#

<b>Welding</b>	Basic Welding
<b>Diesel Technology</b>	Introduction to Heavy Equipment
<b>Basic Electricity</b>	Electrical Systems I
	Electrical Systems II
<b>Engines</b>	Fluids and Filtration
	Engines I
	Engines II
<b>HVAC</b>	Truck Heating, Ventilation, and Air Conditioning
<b>Hydraulics</b>	Hydraulics I
	Hydraulics II
<b>Power Trains</b>	Power Train I
	Power Train II
<b>Suspension</b>	Medium/Heavy Truck Suspension and Steering
<b>Scheduled Services</b>	Preventative Maintenance
	Service and Parts Management

**Communication**

English 101

**COURSE TOPIC DESCRIPTIONS**

A. Description #1

B. Description #2

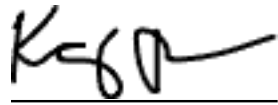
C. Description #3

D. Description #4

**SECTION 27 - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS**

**EquipmentShare** hereby adopts these standards of apprenticeship.

*Sponsor(s) designate the appropriate person(s) to sign the standards on their behalf.*



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Signature of Sponsor (*designee*)

Date: 7/18/24

Kalynn Ramsey, Apprentice Program Manager  
Type Name & Title