



APPENDIX A

INDUSTRIAL TRUCK MECHANIC

D.O.T. CODE 620.281-050

O*NET CODE 49-3031.00

This training outline is the current standard for Work Processes and Related Instruction. Changes in technology, regulations, and safety & health issues may result in the need for additional on-the-job or classroom learning.

WORK PROCESSES

	<u>Approximate Hours</u>
A. <u>Assist Skilled Mechanic</u>	400
B. <u>Overall Inspection and Preventive Maintenance</u>	800
1. Control hazardous energy (block and jack truck according to manufacturers' recommendations; properly secure mast; lock out/tag out; discharge capacitors, etc.)	
2. Inspect all safety-related devices (including horn, back-up alarm, seat belt, brakes, parking brake, mast chains, fork wear, attachments)	
3. Follow regular Preventive Maintenance schedule	
4. Lubricate and clean	
5. Make minor repairs and adjustments	
6. Note parts that show wear	
7. Schedule their replacement to prevent breakdown	
8. Perform emissions testing	
9. Record completion of work in written or computerized format	

C. Mechanical Repairs and Troubleshooting

2100

1. Effectively use computer diagnostics
2. Drive units (at least 3 of the following):
 - a. gasoline driven
 - b. electric motor driven
 - c. fluid drive
 - d. diesel driven
 - e. liquefied petroleum (LP) driven
 - f. fuel cell driven
3. Axle assemblies
4. Steering assemblies
5. Power transmission
6. Brake systems
7. Exhaust systems
8. Pollution controls
9. Lift units (at least 3 different types)
10. Tilt units
 - a. hydraulic
 - b. electric power driven
 - c. electric
11. Drive and trailing wheels and tires
 - a. wheel bearings, tires, alignment, bearing preload, lug nut torque
12. Mechanical controls and hydraulic equipment
 - a. pumps
 - b. control valves
 - c. lines (tubing, piping, fittings)
 - d. mechanical interlock and hydraulic controls
 - e. cylinders – single and double acting
 - f. packing
13. Wire guidance (if available)

D. Electrical Repair, Maintenance and Troubleshooting

2100

1. Demonstrate understanding of truck's operating system and what kind of messages are sent. Re-install and re-program system as needed
2. Accurately read pin-out matrix
3. Effectively use computer diagnostics
4. Trace control and power circuits; check for grounds, shorts, open circuits, corrosion on connectors (pins and plugs)
5. Tune-up carburetion, ignition

a.	Test, repair and replace solenoids, contactors, controllers, motors, switches, resistors, meters	
b.	Motor removal and installation; wire and rewire; install new brushes; inspect, clean and true armature	
6.	Battery	
a.	Follow safety procedures, electrostatic discharge precautions	
b.	Clean and check battery posts, cables, straps, and battery containers	
c.	Charge, remove, replace	
E.	<u>Miscellaneous</u>	600
1.	Jacking, tie down, transport, towing	
2.	Read and understand job orders	
3.	Plan sequence of work	
4.	Drive repaired vehicle to verify conformance to specifications	
5.	Welding, as applied to the trade, following all safety procedures and policies	
6.	Minor frame and bodywork	
7.	Interchange of material handling devices (if applicable)	
8.	Document all work performed, and additional work needed, in complete and logical way, using computer or written format	
	TOTAL HOURS	6,000

Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>.

APPENDIX B

INDUSTRIAL TRUCK MECHANIC

RELATED INSTRUCTION

Safety and Health

- Industrial Safety
- Proper Use of Personal Protective Equipment (PPE)
- Lift Truck Safety (including jacking, tie down, towing)
- Lock Out/Tag Out
- Operator Training (as required by OSHA Regulation 1910.178)
- Right-to-Know/Material Safety Data Sheets (MSDS)
- Proper Disposal of Waste (oil, filters, fluids, etc.)
- First Aid – minimum 6.5 hours every 3 years

Blueprint Reading and Sketching

- Interpreting Schematics
- Reading Wiring Diagrams, Pin-Out Matrix
- Reading Flow Diagrams
- Reading Technical Manuals

Mathematics

- Mathematics for the Mechanical Trades

Trade Theory and Science

- Basic Metallurgy
- Mechanical Theory as Applied to the Trade
- Electrical Theory as Applied to the Trade
- Fundamentals of Hydraulics
- Care and Use of Tools and Equipment
- Preventive Maintenance
- Industrial Batteries: Safe Use, Care and Service
- AC Motors
- AC Motor Controls
- DC Motors and Motor Controls (if applicable)
- Mechanical Maintenance of Industrial Trucks
- Electrical Maintenance of Industrial Trucks
- Fuel Cell Theory and Maintenance (if applicable)
- Diagnosing and Troubleshooting

Welding for the Trade
Safe Use of Hoists (if applicable)
Wire Guidance (if used on the job)

Other Workplace Skills

Computer Skills (including basic PC; messages, codes and tests)
Sexual Harassment Prevention Training – minimum 3 hours

Other Related Courses as Required

A minimum of 144 hours of Related Instruction is required for each apprentice for each year.