

# Agricultural Equipment Mechanics Competency Profile



## SAFETY

- Practice shop, tool and equipment safety
- Identify safety signs and symbols
- Demonstrate First Aid Procedures
- Operate equipment safely
  - Skid Steer
  - Forklift
  - Tractors

## GENERAL EQUIPMENT SERVICES

- Lubricate equipment
- Service basic electrical
- Perform adjustments
- Service filter systems
- Check and maintain fluid levels
- Perform preventive maintenance

## GASOLINE ENGINE MAINTENANCE

- Service gasoline fuel systems
- Service air intake systems
- Service cooling systems
- Repair and service lubrication systems
- Service ignition systems
- Rebuild gasoline engines
- Replace internal and external engine components
- Maintain engine emission systems
- Troubleshoot gasoline engines

## DIESEL ENGINE MAINTENANCE

- Service diesel fuel systems
- Service air intake systems
- Service cooling systems
- Repair and service lubrication systems
- Test and service fuel injectors
- Rebuild diesel engines
- Replace internal and external engine components
- Maintain engine emission systems
- Troubleshoot diesel engines

## **POWER TRANSMISSION**

- Analyze and repair gear transmissions
- Analyze and repair differentials and final drives
- Analyze and repair clutches and brakes
- Analyze and repair auxiliary drives

## **HYDRAULIC SYSTEMS**

- Analyze hydraulic systems problems
- Repair hydraulic cylinders
- Repair hydraulic pumps
- Repair hydraulic lines
- Identify hydraulic fittings
- Measure flow rate, pressure and temperature of system
- Read system schematics
- Troubleshoot hydraulic system problems

## **ELECTRICAL SYSTEMS**

- Read and interpret symbols and wiring diagrams
- Analyze charging system problems
- Analyze starting system problems
- Analyze ignition system problems
- Analyze safety interlock system components

## **HEATING AND AIR CONDITIONING SYSTEMS**

- Identify components of heating systems
- Identify components of air conditioning systems
- Replace components of heating and air conditioning systems
- Diagnose heating and air conditioning system problems

## **STEERING AND SUSPENSION SYSTEMS**

- Analyze suspension system components
- Remove and replace suspension system components
- Analyze steering system components
- Remove and replace steering system components
- Align steering system
- Test and diagnose braking systems
- Repair braking systems
- Analyze tires and tracks
- Repair tires and tracks

### **FABRICATING HOT METAL**

- Weld metal in various positions
- Arc weld metal
- Mig weld metal
- Gas weld
- Braze metal
- Solder metal
- Cut metal with oxyacetylene
- Cut metal with plasma

### **FABRICATE COLD METAL**

- Lay out, cut and square metal
- Drill and tap metal
- Fasten metal with rivets, screws and bolts
- Select and use abrasives to finish metal

### **CONTAMINANTS**

- Identify contaminants
- Dispose of contaminants
- Maintain and access MSDS sheets