

<b>Directions:</b>	Evaluate the trainee using the rating scale below and check the appropriate number to indicate the degree of competency achieved. The numerical ratings of 3, 2, 1, and 0 are not intended to represent the traditional school grading system of A, B, C, D, and F. The descriptions associated with each of the numbers focus on level of student performance for each of the tasks listed below.
<b>Rating Scale:</b>	<p><b>0 - No Exposure</b> - no information nor practice provided during training program, complete training required.</p> <p><b>1 - Exposure Only</b> - general information provided with no practice time, close supervision needed and additional training required.</p> <p><b>2 - Moderately Skilled</b> - has performed independently during training program, limited additional training may be required.</p> <p><b>3 - Skilled</b> - can perform independently with no additional training.</p>

1. Number of Competencies Evaluated	_____
2. Number of Competencies Rated 2 or 3	_____
3. Percent of Competencies Attained (2/1)	_____
Grade	_____
Instructor Signature	Date

**01.0 Safety**

The student will be able to:

0 1 2 3

- 01.01 Identify safety equipment necessary for agricultural power systems
- 01.02 Apply basic laboratory safety instruction
- 01.03 Describe safety practices when working with large engines
- 01.04 Apply safety practices when using tractors
- 01.05 Identify the safe tractor operation practices for field and highway conditions

**02.0 Agricultural Tractors**

The student will be able to:

0 1 2 3

- 02.01 Identify and describe the operating principles of internal combustion engines--both spark ignition and diesel
- 02.02 Identify the daily service and care operations from the operator's manual
- 02.03 Identify the operating principles of the air cleaning, fuel and oil filtering and engine cleaning systems
- 02.04 Interpret the circuit diagram of the electrical and fuel injection systems of a diesel tractor
- 02.05 Interpret Nebraska Tractor Test information
- 02.06 Conduct pre-operation inspection of a farm tractor
- 02.07 Start, operate and stop the tractor engine properly

**03.0 Fuels and Lubes**

The student will be able to:

0 1 2 3

- 03.01 Select, safely store and use fuels and lubricants for gasoline, LPG and diesel tractors
- 03.02 Decide what octane rating to select for gasoline engines with different compression ratios
- 03.03 Explain why the correct octane is important
- 03.04 Decide what grade of diesel fuel to select for different diesel engines
- 03.05 Decide what cetane rating of diesel fuel to select for different diesel engines
- 03.06 Explain why the proper grade and cetane rating are important
- 03.07 Describe how to store gasoline, L.P. GAS and diesel fuel
- 03.08 Describe why the proper storage of fuels is important
- 03.09 Describe crank case oil classifications and grade
- 03.10 Describe what class and grade of crank case oil to select for different engines and operating conditions
- 03.11 Explain why the correct oil is important
- 03.12 Select gear lubricant
- 03.13 Select hydraulic fluid
- 03.14 Select bearing grease
- 03.15 Describe how to store oils and greases
- 03.16 Explain why the proper storage of oils and greases is important

#### 04.0 Power Transmission

The student will be able to:

0 1 2 3

- 04.01 Identify the function and operating principles of tractor clutches, transmission, control systems, including brakes
- 04.02 Lubricate the clutch release mechanism
- 04.03 Check and service the hydraulic system oil reservoir

#### 05.0 Troubleshooting and Tune-up

The student will be able to:

0 1 2 3

- 05.01 Use ignition test equipment including dwell meters, tachometers, and timing devices
- 05.02 Test and service the battery and battery circuit
- 05.03 Adjust drive belts
- 05.04 Service the cooling system
- 05.05 Test and service the charging and cranking systems
- 05.06 Install diesel fuel filters and bleed the fuel system
- 05.07 Adjust control linkages including brakes, clutches, and safety disconnects
- 05.08 Properly pack front wheel bearings
- 05.09 Check and service the air cleaner
- 05.10 Change crankcase oil
- 05.11 Replace the oil filter
- 05.12 Check and service the crankcase breather
- 05.13 Check and maintain tractor tires
- 05.14 Adjust valve tappet clearance
- 05.15 Check and service tractor spark plugs
- 05.16 Clean the sediment bowl and fuel filter
- 05.17 Adjust the carburetor
- 05.18 Adjust tractor brakes
- 05.19 Adjust the engine clutch
- 05.20 Check and service the distributor
- 05.21 Time the ignition
- 05.22 Check and service the drive mechanism
- 05.23 Check and service the hydraulic system
- 05.24 Adjust the engine governor
- 05.25 Prepare the tractor for storage