

DIESEL MECHANICS

STUDENT GRADE RECORD

Career & Technical Education

WINDHAM SCHOOL DISTRICT

Student Name _____

TDCJ # _____

Instructor Name _____

Unit _____

WSD Certificate	Y / N
If I were hiring for this position, I would: (check one) <input type="checkbox"/> 0-No recommendation at this time. (Cannot be used for Completers.) <input type="checkbox"/> 1-Hire this person and look no further. <input type="checkbox"/> 2-Interview this person along with other applicants <input type="checkbox"/> 3-Not hire this person.	
Complete only if student attempted industry certification.	
Name of Industry Certificate	Code P/F
ASE, Diesel Engines-T2	0222
ASE, Preventive Maintenance Inspection (PMI)	0228
GREEN ENVIRONMENT	0105

I attest that all of the information reported on this form is true.

Instructor Signature

Date

Course Outline Modules	Industry Module Test	Industry Module Performance	Module Competency Rating
1. CTE Orientation			
2. Introduction to Diesel Engines			
3. Shop Safety			
4. Tools, Precision Tools, and Fasteners			
5. Principles of Operation			
6. Engine Blocks			
7. Crankshafts			
8. Pistons, Rings, and Connecting Rods			
9. Cylinder Heads and Related Components			
10. Camshafts and Valve Train Components			
11. Lubrication Systems			
12. Cooling Systems			
13. Air Intake Systems			
14. Exhaust Systems			
15. Diesels Fuels			
16. Basic Fuel Systems			
17. Fuel Filters and Conditioners			
18. Injection System Fundamentals			
19. Injection Nozzles			
20. Governors and Acceleration Controls			
21. Multiple Plunger Inline Injection Pumps			
22. Distributor Injection Pumps			
23. Unit Injector Fuel Injection Systems			
24. Cummins Pressure-Time Injection Systems			
25. Basics of Electricity			
26. Electronic Engine Controls and Fuel Injection			
27. Diesel Engine Charging Systems			
28. Diesel Starting Systems			
29. Engine Reassembly and Installation			
30. Preventive Maintenance and Troubleshooting			

<i>Windham Module Test Average</i>	x . 75		a	Completer
<i>Windham End of Course Exam</i>	x . 25		b	
<i>Windham Module Score (a + b=)</i>				70+
<i>% Competencies Completed</i>				70+
<i>Module Competency Rating</i>				2.7+

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STUDENT PROGRESS RECORD

RECORDING DIRECTIONS

SKILL RATING: Post the student's competency rating for each skill performed.

MODULE TEST SCORE: Enter the student's test score for the module.

MODULE RATING: Use the following scale to determine module rating:

[4] **Skilled**- Can perform competencies independently with no supervision.

[3] **Moderately Skilled**- Can perform competencies with limited supervision.

[2] **Limited Skill**- Requires instruction and close supervision to perform competencies.

[1] **Unskilled**- Exposed to concept, but no hands-on experience.

Note: When evaluating a student's module rating, skill performance should be given priority.

1. CTE Orientation

Teacher Student
Initial Initial

- ____ | ____ 1. Identify employment opportunities related to the course.
- ____ | ____ 2. Identify the number of classroom hours a student must attend to be considered as a completer.
- ____ | ____ 3. Identify the industry-recognized certification.
- ____ | ____ 4. Identify course expectations including:
- Working conditions
 - Attendance expectations
 - Instructor's expectations

2. Introduction to Diesel Engines

Module Test Score _____

3. Shop Safety

Module Test Score _____

Minimum 100% Required

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Determine correct fire extinguisher to use for various situations.
- ____ 2. Demonstrate the ability to safely lift an object.
- ____ 3. Interpret Material Safety Data Sheets (MSDS).

4. Tools, Precision Tools, and Fasteners

Module Test Score _____

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Demonstrate the proper use of hand tools.
- ____ 2. Demonstrate how to operate portable and stationary tools safely.
- ____ 3. Demonstrate how to use a torque wrench.
- ____ 4. Demonstrate how to use a micrometer.

5. Principles of Operations

Module Test Score _____

6. Engine Blocks

Module Test Score _____

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Conduct a cylinder block inspection.
- ____ 2. Inspect a cylinder and liner.
- ____ 3. Install cylinder liner.

7. Crankshafts

Module Test Score _____

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Inspect a crankshaft for defects.
- ____ 2. Inspect a flywheel and vibration damper.

8. Piston, Rings, and Connecting Rods

Module Test Score _____

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Demonstrate piston service.
- ____ 2. Install piston rings.

9. Cylinder Heads and Related Components

Module Test Score _____

____ *Module Rating (4, 3, 2, 1)*

- ____ 1. Demonstrate head disassembly procedures.
- ____ 2. Check for cracks and leaks in a cylinder head.
- ____ 3. Demonstrate the service of valves and related components.

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10. Camshaft and Valve Train Components

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Remove and replace a diesel engine camshaft.
- _____ 2. Inspect and diagnose valve guide wear.

11. Lubrication Systems

Module Test Score _____

12. Cooling Systems

Module Test Score _____

13. Air Intake Systems

Module Test Score _____

14. Exhaust Systems

Module Test Score _____

15. Diesel Systems

Module Test Score _____

16. Basic Fuel Systems

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Remove and replace fuel line.

17. Fuel Filters and Conditioners

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Change both bolt-on and spin-on fuel filters.

18. Injection System Fundamentals

Module Test Score _____

19. Injection Nozzles

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Remove and install a nozzle holder and nozzle.
- _____ 2. Disassemble, inspect, clean, reassemble, and test nozzle holders and nozzles.

20. Governors and Acceleration Controls

Module Test Score _____

21. Multiple Plunger Inline Injection Pumps

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Properly bleed all air from the fuel lines.
- _____ 2. Perform diagnostic test to check for proper pump operating pressures, relief valve operation, and fuel line restrictions.

22. Distributor Injection Pumps

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Properly remove, install, and time an opposed plunger, inlet metered distributor pump to an engine.

23. Unit Injector Fuel Injection System

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Properly remove and install a unit injector.
- _____ 2. Perform a fuel spill back check.
- _____ 3. Perform an engine tune-up on a mechanical unit injection system.
- _____ 4. Perform valve clearance adjustment and injector timing adjustment on a diesel engine.

24. Cummins Pressure-Time Injection Systems

Module Test Score _____

_____ Module Rating (4, 3, 2, 1)

- _____ 1. Perform basic checks and adjustment to the PT fuel pump.
- _____ 2. Check PT fuel injection system for fuel system restrictions and air leaks.
- _____ 3. Properly remove and install PT fuel injectors.
- _____ 4. Perform a timing check on a PT injection engine using the proper timing fixture.
- _____ 5. Perform valve crosshead adjustment, valve clearance adjustment, and injector timing adjustment.

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25. Basics of Electricity

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Perform battery state of charge and capacity tests.
- _____ 2. Properly recharge batteries using either fast or slow charging methods.
- _____ 3. Properly jump start vehicles equipped with either 12-volt or 12 to 24-volt electrical systems.

26. Electronic Engine Controls and Fuel Injection

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Demonstrate the basic steps used when troubleshooting engines equipped with electronic controls.

27. Diesel Engine Charging Systems

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Perform checks and adjustments on the charging system.
- _____ 2. Remove and install an alternator on a typical diesel engine.

28. Diesel Starting Systems

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Perform starter system tests.

29. Engine Reassembly and Installation

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Reassemble a completely overhauled diesel engine.
- _____ 2. Demonstrate procedures for pre-lubrication and preparing the engine for a startup and running.

30. Preventive Maintenance and Troubleshooting

Module Test Score _____

Module Rating (4, 3, 2, 1)

- _____ 1. Perform the following troubleshooting tests: locating a misfired cylinder, cylinder compression check, manometer pressure checks including crankcase pressure, exhaust back pressure, air inlet pressure, air leakage checks, and air box and/or turbocharger boost pressure checks.
- _____ 2. Perform primary engine checks.
- _____ 3. Properly prepare a diesel engine for short and long-term storage.

_____ Number of Skills Completed +

47 Number of Skills on SPR =

_____ % of Skills Completed

Conference

Date: _____ Hours in class: _____

Comments:

Teacher initial: _____ Student initial: _____

Student Name: _____

TDCJ Number: _____

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