Dakota County Technical College

ABCT 2100: Body Electrical

A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: *.*

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course will focus on electrical troubleshooting and repair problems and procedures relating to collision electrical damage problems.
Prerequisites: None

B. COURSE EFFECTIVE DATES: 03/15/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Perform safety procedures
2. Identify ignition switch operation
3. Identify exterior lighting circuit operation
4. Troubleshoot exterior lighting circuit
5. Identify interior lighting circuit operation
6. Troubleshoot interior lighting circuit
7. Identify blower motor circuit operation
8. Identify trailer wiring procedures
9. Perform trailer wiring procedures
10. Check voltages in electrical wiring circuits with a DMM (digital multimeter) HP-I
11. Check continuity and resistance in electrical wiring circuits and components with a DMM (digital multimeter) HP-I
12. Repair electrical circuits, wiring, and connectors according to manufacturer's specifications HP-I
13. Inspect, test, and replace fusible links, circuit breakers, and fuses HP-I
14. Perform battery state-of-charge test; determine needed service HP-I
15. Inspect, clean, and replace battery HP-I
16. Dispose of batteries and battery acid according to local, state, and federal requirements HP-G
17. Perform slow/fast battery charge in accordance with manufacturer's recommendations HP-I
18. Identify programmable electrical/electronic components; record data for reprogramming before disconnecting battery HP-G
19. Inspect, clean, and repair or replace battery cables, connectors, and clamps HP-I
20. Inspect alignment, adjust, and replace generator (alternator) drive belts, pulleys, and fans HP-G
21. Remove and replace generator (alternator) HP-I
22. Check operation of exterior lighting; determine needed repairs HP-I
23. Aim headlamp assemblies and fog/driving lamps; determine needed repairs HP-G
24. Check operation of retractable headlamp assembly HP-G
25. Remove and replace motors, switches, relays, connectors, and wires of retractable headlamp assembly circuits HP-I
26. inspect, test, and repair or replace switches, relays, bulbs, sockets, connectors, and wires of all interior and exterior light circuits HP-I
27. Remove and replace horn(s); check operation HP-G
28. Check operation of windshield wiper/washer system HP-I
29. Check operation of power side windows and power tailgate window HP-G
30. Inspect, remove and replace power seat, motors, linkages, cables, etc. HP-G
31. Inspect, remove and replace components of electric door and hatch/trunk lock HP-G
32. Inspect, remove and replace components of keyless lock/unlock devices and alarm systems HP-G
33. Inspect, remove and replace components of electrical sunroof and convertible top HP-I
34. Check operation of electrically heated mirrors, windshields, back lights, panels, etc.; repair as necessary HP-I
35. Inspect, remove and replace components of power antenna circuits HP-I
36. Demonstrate the proper self-grounding procedures for handling electrical components HP-I
37. Exhibit utmost professionalism
38. Check module for communication errors using a scan tool.
39. Use wiring diagrams and diagnostic flow charts during diagnosis of electrical circuit problems.
40. Identify safe disabling techniques of high voltage systems on hybrid vehicles.
41. Identify potential safety and environmental concerns associated with hybrid vehicle systems.

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E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted