

Minnesota State College Southeast

ABCT 1165: Sheet Metal Repair and Replacement

A. COURSE DESCRIPTION

Credits: 5

Lecture Hours/Week: 1

Lab Hours/Week: 8

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Outer body panel repairs and replacement procedures will be included in this course. Straightening techniques will focus on contour correction for use of body filler materials which are also part of the course. Paintless dent removal will be covered in theory and participants will be able to attempt to use the techniques. Body fillers will be completed so as to be prepared for application of primer surfacer. Body panel replacement procedures will be introduced and practice opportunities provided for adjustable sheet metal including doors, hoods, deck lids, hatches, slider doors and fenders. Welded on body panels including roof skins, quarter panels, and door skins will also be included. (Prerequisite or concurrent: ABCT1115, ABCT1125) (5 credits: 1 lecture/4 lab)

B. COURSE EFFECTIVE DATES: 02/10/2015 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Utilize safe practices for personal and vehicle safety and protection
2. Perform sheet metal repair procedures for steel and aluminum panels to prepare for body filler repairs
3. Perform body filler techniques and finish to correct contour for primer surfacer
4. Replace bolted on body panels and adjust related hinges and latches
5. Perform panel bonding and spot weld removal procedures on roof skins, door skins, and quarter panels
6. Reapply corrosion protection materials, seam sealers, and foam fillers

D. LEARNING OUTCOMES (General)

1. Identify and practice personal safety for repairs and replacement of sheet metal
2. Identify and use vehicle protection procedures during sheet metal repairs
3. Identify the metal types used for vehicle body panels and strength properties
4. Identify sheet metal repair tools and sheet metal terminology
5. Define body panel shapes, terminology, and the role shape plays on strength
6. Identify body panel replacement sources
7. Locate sheet metal panel damage and determine repair options
8. Describe and demonstrate steel sheet metal straightening techniques to prepare for body fillers
9. Describe and practice paintless dent repair techniques
10. Describe and practice aluminum sheet metal straightening techniques to prepare for body fillers
11. Describe and demonstrate sheet metal shrinking techniques for steel and aluminum
12. Perform repairs to torn sheet metal panels using straightening and welding techniques
13. Identify types of body fillers and define their uses
14. Identify body filler shaping tools and abrasive grits
15. Apply and shape body filler on properly repaired sheet metal panels
16. Identify body filler shaping tools and techniques
17. Perform body filler shaping techniques
18. Remove bolted on body panels and inspect panels and mounting areas for damage
19. Remove, reinstall, replace, and adjust front fenders
20. Remove, reinstall, replace, and adjust deck lids, latches, and hinges
21. Remove, reinstall, replace, and adjust hatches, lift gates and sliding doors
22. Remove, reinstall, replace, and adjust doors, hinges, and latches
23. Remove, reinstall, replace, and adjust hoods, hinges, and latch
24. Identify upper body measurements for body panel openings
25. Perform upper body measurements with tape rule and tram bars
26. Identify panel replacement procedures for bolted on aluminum panels
27. Identify and demonstrate panel bonding procedures for door skins, roof skins, and quarter panels
28. Remove welded and bonded on body panels
29. Restore corrosion protection to body panels that were repaired or replaced
30. Reinstall sound deadeners and foam materials
31. Complete lab assignment for body panel repairs and replacement
32. Complete all course paperwork, quizzes, and tests
33. Participate in shop clean-up and equipment maintenance
34. Exhibit professionalism

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted