Syllabus

AUMT 2313
Manual Drive Train and Axles

Automotive Technology

BRAZOSPORT COLLEGE

LAKE JACKSON TEXAS

PREPARED BY: Rick Underdahl, INSTRUCTOR — DATE: September 2015

RECOMMENDED BY: _____, DIVISION CHAIRMAN — DATE: _____

APPROVED BY: _____, DEAN — DATE: _____

BRAZOSPORT COLLEGE
500 COLLEGE DRIVE
LAKE JACKSON, TEXAS 77566

AUMT 2313
MANUAL DRIVE TRAIN AND AXLES

COURSE DESCRIPTION

A study of automotive clutches, clutch operation devices, standard transmissions, transaxles, and differentials with emphasis on the diagnosis and repair of transmissions and drivelines. May be taught manufacturer specific. (2-4)

COURSE FOCUS

This course will cover clutches, manual transmissions and transaxles and differentials.

TEXT AND REFERENCES

Automotive Technology Curriculum
Author(s): CDX Automotive

- ISBN-13: 9781284027327

Details:

- Online Course pages © 2015
  Access Code Subscription Length: 365 Days

Required course materials are available at the Brazosport College bookstore, on campus or online at http://www.brazosport.edu/bookstore. A student of this institution is not under any obligation to purchase a textbook from the college bookstore. The same textbook is/may also be available from an independent retailer, including an online retailer.

COURSE GOALS

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives (Addendum A). (* designates a CRUCIAL goal)

1. list safety rules
2. practice safety rules
3. adjust clutch
4. diagnose clutch problems
5. repair clutch linkage
6. remove and replace transmission
7. replace flywheel
8. replace clutch assembly
9. replace pilot bearing, bushing
10. inspect engine block, bell housing
11. replace transmission mounts
12. replace transmission seals and gaskets
13. diagnose transmission noises
14. diagnose transmission problems
15. overhaul transmission
16. inspect and repair transmission shift linkages
17. remove and install transaxle assembly
18. repair transaxle shift linkages
19. diagnose driveline noises
20. diagnose driveline vibrations
21. diagnose rear axle bearings
22. replace universal joints
23. measure rear axle endplay
24. measure rear axle flange runout
25. repair front wheel drive constant velocity joints and boots
26. replace center support bearings
27. replace rear axle bearings
28. replace rear axle shafts
29. diagnose differential problems
30. repair differential problems
31. inspect four wheel drive hub assembly
32. remove and install transfer case

STUDENT CONTRIBUTIONS

Each student will spend at least 5 hours per week preparing for class. Attendance is important. The student will be given the opportunity to evaluate the course and the instructor at the end of the semester.

COURSE EVALUATION

A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 - 69
F = 59 and below

COURSE SCHEDULE

The class meets for 2 lecture hours and 3 lab hours per week.

ADDENDUM A

PERFORMANCE OBJECTIVES

1. The student will not be allowed references. The student will list safety rules. Performance will be satisfactory if rules are listed and the listing is 100% correct.
2. The student will be a member of AUMT 2313. The student will practice safety rules. Performance will be satisfactory if rules are practiced.
3. The student will be allowed references. The student will be provided tools. The student will adjust clutch. Performance will be satisfactory if clutch is adjusted according to manufacturer's specifications in twice the flat rate time as published.
4. The student will be allowed references. The student will diagnose clutch problems. Performance will be satisfactory if problems are diagnosed and the diagnosis is consistent with the service manual.
5. The student will be allowed references. The student will be provided tools. The student will repair clutch linkage. Performance will be satisfactory if linkage is repaired according to manufacturer's specifications in twice the flat rate time as published.
6. The student will be allowed references. The student will be provided tools. The student will remove and replace transmission. Performance will be satisfactory if transmission is removed and replaced according to manufacturer's specifications in twice the flat rate time as published.
7. The student will be allowed references. The student will be provided tools. The student will replace flywheel. Performance will be satisfactory is flywheel is replaced according to manufacturer's specifications in twice the flat rate time as published.
8. The student will be allowed references. The student will be provided tools. The student will replace clutch assembly. Performance will be satisfactory if assembly is replaced according to manufacturer's specifications in twice the flat rate time as published.
9. The student will be allowed references. The student will be provided tools. The student will replace pilot bearing, bushing. Performance will be satisfactory if bearing or bushing is replaced according to manufacturer's specifications in twice the flat rate time as published.
10. The student will be allowed references. The student will inspect engine block, bell housing. Performance will be satisfactory if bell housing is inspected according to manufacturer's specifications.
11. The student will be allowed references. The student will be provided tools. The student will replace transmission mounts. Performance will be satisfactory if mounts are replaced according to manufacturer's specifications in twice the flat rate time as published.
12. The student will be allowed references. The student will be provided tools. The student will replace transmission seals and gaskets. Performance will be satisfactory if seals and gaskets are replaced according to manufacturer's specifications in twice the flat rate time as published.
13. The student will be allowed references. The student will diagnose transmission noises. Performance will be satisfactory if noises are diagnosed according to manufacturer's specifications.
14. The student will be allowed references. The student will diagnose transmission problems. Performance will be satisfactory if the diagnosis is performed according to procedures given in the service manual.
15. The student will be allowed references. The student will be provided tools. The student will overhaul transmission. Performance will be satisfactory if transmission is overhauled according to manufacturer's specifications in twice the flat rate time as published.
16. The student will be allowed references. The student will be provided tools. The student will inspect and repair transmission shift linkages. Performance will be satisfactory if shift linkages are inspected and repaired according to manufacturer's specifications in twice the flat rate time as published.
17. The student will be allowed references. The student will be provided tools. The student will remove and install transaxle assembly. Performance will be satisfactory if assembly is removed and installed according to manufacturer's specifications in twice the flat rate time as published.
18. The student will be allowed references. The student will be provided tools. The student will repair transaxle shift linkages. Performance will be satisfactory if shift linkages are repaired according to manufacturer's specifications in twice the flat rate time as published.

19. The student will be allowed references. The student will diagnose driveline noises. Performance will be satisfactory is noises are diagnosed and the diagnosis is consistent with the service manual.
20. The student will be allowed references. The student will diagnose driveline vibrations. Performance will be satisfactory if vibrations are diagnosed and the diagnosis is consistent with the service manual.
21. The student will be allowed references. The student will diagnose rear axle bearings. Performance will be satisfactory if bearings are diagnosed and the diagnosis is consistent with the service manual.
22. The student will be allowed references. The student will be provided tools. The student will replace universal joints. Performance will be satisfactory if joints are replaced according to manufacturer's specifications in twice the flat time rate as published.
23. The student will be allowed references. The student will be provided tools. The student will measure rear axle endplay. Performance will be satisfactory if endplay is measured according to manufacturer's specifications in twice the flat time rate as published.
24. The student will be allowed references. The student will be provided tools. The student will measure rear axle flange runout. Performance will be satisfactory if runout is measured according to manufacturer's specifications in twice the flat time rate as published.
25. The student will be allowed references. The student will be provided tools. The student will repair front wheel drive constant velocity joints and boots. Performance will be satisfactory if joints and boots are repaired according to manufacturer's specifications in twice the flat rate time as published.
26. The student will be allowed references. The student will be provided tools. The student will replace center support bearing. Performance will be satisfactory if bearing is replaced according to manufacturer's specifications in twice the flat time rate as published.
27. The student will be allowed references. The student will be provided tools. The student will replace rear axle bearings. Performance will be satisfactory if bearing is replaced according to manufacturer's specifications in twice the flat time rate as published.
28. The student will be allowed references. The student will be provided tools. The student will replace rear axle shafts. Performance will be satisfactory is shafts are replaced according to manufacturer's specifications in twice the flat time rate as published.
29. The student will be allowed references. The student will diagnose differential problems. Performance will be satisfactory if problems are diagnosed and the diagnosis is consistent with the service manual.
30. The student will be allowed references. The student will be provided tools. The student will repair differential problems. Performance will be satisfactory if problems are repaired according to manufacturer's specifications in twice the flat rate time as published.
31. The student will be allowed references. The student will inspect four wheel drive hub assembly. Performance will be satisfactory if hub assembly is inspected and the inspection is consistent with the service manual.
32. The student will be allowed references. The student will be provided tools. The student will remove and install transfer case. Performance will be satisfactory if case is removed and installed according to manufacturer's specifications in twice the flat time rate as published.

STUDENTS WITH DISABILITIES

Brazosport College is committed to providing equal education opportunities to every student. Brazosport College offers services for individuals with special needs and capabilities including counseling, tutoring, equipment, and software to assist students with special needs. Please contact the Special Populations Counselor, 979.230.3236, for further information.

ACADEMIC HONESTY

Brazosport College assumes that students eligible to perform on the college level are familiar with the ordinary rules governing proper conduct including academic honesty. The principle of academic honesty is that all work presented by you is yours alone. Academic dishonesty including, but not limited to, cheating, plagiarism, and collusion shall be treated appropriately. Please refer to the Brazosport College Student Guide for more information. This is available online at http://www.brazosport.edu. Click on the CATALOGS AND SCHEDULES link under STUDENTS.

Academic dishonesty violates both the policies of this course and the Student Code of Conduct. In this class, any occurrence of academic dishonesty will be referred to the Dean of Student Services for prompt adjudication, and will, at a minimum, result in an automatic zero for the assignment. Sanctions may be imposed beyond your grade in this course by the Dean of Student Services.