

COURSE OUTLINE

Revised By: Doug Clapper & Howard Andersen

DATE: October 23, 2014

DEPARTMENT: Automotive Technology

CURRICULUM: Automotive Technology

COURSE TITLE: Automatic Transmission Diagnosis and Service

COURSE NUMBER: AUT 118

TYPE OF COURSE: Vocational Preparatory

COURSE LENGTH: Normally 3 weeks

CREDIT HOURS: 4

LECTURE HOURS: 15

LAB HOURS: 60

CLASS SIZE: 20 maximum

PREREQUISITES: MVM 100 (Introduction to Automotive Technology I),
, MVM 102 (Introduction to Automotive Technology II),
AUT 100 (Introduction to Electricity), basic math skills,
and 9th grade or higher reading level (as evident by
appropriate placement test scores), and/or instructor's
permission.

COURSE DESCRIPTION:

Contents include: Power flow and principles involving automatic transmissions; troubleshooting and diagnosing automatic transmissions; band adjustment; TV and shift linkage adjustment; neutral safety switches; flush coolers and cooler lines; repair external transmission leaks; drain automatic transmission fluid; replace automatic transmission filters; fill automatic transmission with fluid; remove, disassemble, clean, inspect, reassemble and reinstall automatic transmission valve bodies; remove and reinstall transmissions in front and rear drive vehicles; as well as road test for transmission problems. In addition the function and construction of each component, as well as their diagnosis and service procedures will be covered. Instruction in safety, environmental awareness, human relations and leadership are taught as an integral part of this unit of study.

STUDENT LEARNING OUTCOMES ADDRESSED:

1. Critical Thinking - Use problem solving skills to diagnose and repair automatic transmission problems. (SLO 4.1)

2. Technology – Proper use and care of automatic transmission repair tools and equipment. (SLO 5.1)

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PROGRAM OUTCOMES:

1. Inspect, diagnose, disassemble, repair, replace and service each of the major systems in various types of vehicles. (SLO 4.1)
2. Locate sources, make parts write-ups, calculate costs and explain repair or service. (SLO 2.1, 2.2 & 7.1)
3. Handle customer needs, complaints, questions and special challenges. (SLO 3.1 & 3.2)
4. Access and apply manufacturer's specifications in repair and replacement. (SLO 7.1)
5. Work safely and responsibly within all shop safety and environmental guidelines and standards. (SLO 6.4 & 6.5)
6. Rebuild and troubleshoot transmissions. (SLO 4.1 & 5.1)
7. Demonstrate ability to pass the ASE test required for NATEF certification. (SLO 1.1, 1.2 & 7.1)
8. Communicate and document service records. (SLO 2.1)
9. Compute costs, time and measurements. (SLO 2.1, 2.2 & 7.1)
10. Work independently and in groups to service, repair, test and maintain vehicles. (SLO 3.1 & 6.3)
11. Use technology to test vehicles. (SLO 5.1)
12. Work with accuracy, dependability, proficiency and in a timely manner, when servicing equipment. (SLO 6.3 & 6.4)

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Explain and demonstrate safety as it applies to the automotive industry
2. Define and explain power flow
3. Define and explain converter operation
4. Identify and differentiate between various types of automatic transmissions
5. Demonstrate all linkage, band and in-car service for automatic transmissions
6. Demonstrate how to remove and reinstall automatic transmissions
7. Demonstrate proficiency in NATEF competencies

TOPICAL OUTLINE:

	APPROX. HOURS
I. Safety practices	5
II. Trace transmission and converter power flow	10
III. Identify, test, repair, and adjust transmission accessories: speedometer, switches, linkages and controls	10
IV. Check and repair oil level and external oil leaks As well as flush coolers and cooler lines	10
V. Test, diagnose change oil and filters, adjust bands, And clean and replace valve bodies	10

VI. Remove and reinstall automatic transmission	20	
VII. Perform road tests and evaluation of transmission		<u>10</u>
Total		75

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