



South Central College

AST 2452 Automatic Transmission II

Course Outcome Summary

Course Information

Description	This course is a hands-on lab class in which various transmissions and transaxles are overhauled, adjusted and bench tested. Basic overhaul techniques and special tool and gauge usage are included. Prior knowledge gained by successful completion of AST1112 and AST2442 is required for student success in this class. 2 Cr (1 lect/pres, 1 lab, 0 other)
Total Credits	2
Total Hours	48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	
Lab	

Pre/Corequisites

Admission into the Automotive Service program.

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Exhibit professionalism

Learning Objectives

Display shop safety
Perform shop safety

2. Diagnose automatic transmission/transaxle

Learning Objectives

Install tester version automatic trans/transaxle
Perform automatic trans/transaxle pressure test, including transmissions/transaxles equipped with electronic pressure control: determine necessary action
Perform stall test

Perform dyno or road test

3. Disassemble automatic transmission

Learning Objectives

Identify trans/transaxle

Identify special automatic trans/transaxle tools/usage

Clean trans/transaxle , inspect case, bores, passages, mating surfaces, bushings and vents

Demonstrate parts catalogues use

Prepare transmission / transaxle repair bill

Explain automatic transmission power flow

Inspect and replace external seals, gaskets, and bushings.

Inspect bands and drums

Inspect / measure or replace thrust washers / bearings and bushings

Inspect oil delivery circuits, including seal rings, ring grooves, and sealing surface areas, feed pipes, orifices, and check valves/balls.

Inspect, measure, clean, and replace valve body (includes surfaces, bores, springs, valves, sleeves, retainers, brackets, check-valves/balls, screens, spacers, and gaskets).

Inspect, measure, and reseal oil pump assembly and components.

Inspect / repair or replace governor / cover / seals / sleeve / valve / weights / springs / retainers and gear

Inspect and measure planetary gear assembly components (includes sun, ring gear, thrust washers, planetary gears, and carrier assembly); determine necessary action.

Bench air test automatic transmission units

4. Assemble automatic transmission

Learning Objectives

Perform converter service, Install and seat torque converter to engage drive/splines.

Flush trans/transaxle cooler

Install trans/transaxle using manufacturers service information

Perform lock-up converter system tests; determine necessary action

Perform dyno or road test

5. Disassemble automatic transaxle

Learning Objectives

Identify trans/transaxle

Identify special automatic trans/transaxle tools/usage

Clean trans/transaxle , inspect case, bores, passages, mating surfaces, bushings and vents

Demonstrate parts catalogues use

Prepare transmission / transaxle repair bill

Inspect oil delivery circuits, including seal rings, ring grooves, and sealing surface areas, feed pipes, orifices, and check valves/balls.

Inspect transaxle drive, link chains, sprockets, gears, bearings, and bushings; perform necessary action.

Inspect power transfer gear train condition

Inspect and measure planetary gear assembly components (includes sun, ring gear, thrust washers, planetary gears, and carrier assembly); determine necessary action.

Inspect thrust washers / bearings and bushings

Inspect ,measure, repair or replace final drive and adjust final drive clearance

Inspect, measure, clean, and replace valve body (includes surfaces, bores, springs, valves, sleeves, retainers, brackets, check-valves/balls, screens, spacers, and gaskets).

Inspect or replace trans/transaxle speedometer drive gear / driven gear or VSS and retainers

Replace automatic transaxle axle seals

Bench air test automatic transaxle units

6. Assemble automatic transaxle

Learning Objectives

Perform converter service, Install and seat torque converter to engage drive/splines.

Flush trans/transaxle cooler

Install trans/transaxle using manufacturers service information

Perform lock-up converter system tests; determine necessary action

Perform dyno or road test

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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