



South Central College

AST 2462 Automatic Transmission III

Course Outcome Summary

Course Information

Description	The student, after completing this course, will have a basic understanding of troubleshooting, repairs, and adjustments of conventional and electronic shift automatic transmissions. (Prerequisite: Admission into the Automotive Service program and AST1112 or instructor approval)
Total Credits	2
Total Hours	48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	1/16
Lab	1/32

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

Identify safety practices
Demonstrate shop safety

2. Identify and interpret trans / transaxle concern, determine necessary action

Learning Objectives

Review trans / transaxle service precautions and technical service bulletins
Assure proper engine operation
Describe trans / transaxle power flow
Describe basic hydraulic circuits
Identify hydraulic test procedures

Diagnose electronic transmission control systems using a scan tool; determine necessary action
Diagnose electronic transmission / transaxle control systems using appropriate test equipment and service information
Inspect, test, adjust, repair, or replace electrical / electronic components and circuits, including computers, solenoids, sensors, relays, terminals, connectors, switches, and harnesses
Inspect, adjust, and replace manual valve shift linkage, transmission range sensor / switch, and park / neutral position switch
Road-test unit

3. Remove transmission / transaxle and torque converter, inspect engine core plugs, rear crankshaft seal, dowel pins, dowel pin holes, and mounting surfaces

Learning Objectives

Service converter endplay, interference, stator clutch, and flush
Inspect flexplate, attaching parts, pilot, seal areas and pump drive and crankshaft pilot bore

4. Disassemble trans / transaxle

Learning Objectives

Clean trans / transaxle / inspect case / bores / passages / bushings / and vents
Prepare trans / transaxle and related parts repair estimate
Inspect / repair / or replace servo / piston / seals / pin / springs and retainer
Inspect servo and accumulator bores, pistons, seals, pins, springs, and retainers; determine necessary action
Replace bushings / bearings / seals, and gaskets
Inspect oil delivery circuits, including seal rings, ring grooves, and sealing surface areas, feed pipes, orifices, and check valves / balls
Inspect roller / sprag clutch / races / springs / rollers / sprags / cages and retainers
Inspect / measure reseal or replace oil pump housing, gears, shafts, rotors, vanes, valves, seals, and bushings
Inspect clutch drums / pistons / seals / springs / check balls / retainers / friction, and pressure plates
Inspect bands and drums; determine necessary action
Measure clutch pack clearance; determine necessary action

5. Assemble trans / transaxle power-train

Learning Objectives

Clean valve body and spacer plate
Disassemble / clean and inspect valve body / springs / valves / retainers
Check geartrain endplay or preload
Air check assembled units
Install valve body / filter/ pan / torque converter

6. Install transmission / transaxle and torque converter

Learning Objectives

Inspect and clean trans / transaxle cooler and lines / check flow
Fill transmission fluid
Demonstrate understanding of the relearn procedure / road-test unit

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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