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

<table>
<thead>
<tr>
<th>Instruction Type</th>
<th>Credits/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1/16</td>
</tr>
<tr>
<td>Lab</td>
<td>1/32</td>
</tr>
</tbody>
</table>

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](http://www.southcentral.edu/disability)

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.