AUTO 2129: Automatic Transmission Conditions

A. COURSE DESCRIPTION

Credits: 6
Lecture Hours/Week: 3
Lab Hours/Week: 6
OJT Hours/Week: *.*

Prerequisites:
This course requires all three of these prerequisites
AUTO 1000 - Orientation and Safety
AUTO 1010 - General Automotive Service
AUTO 1167 - Vehicle Electronics

Corequisites: AUTO 2130

MnTC Goals: None

This course covers the construction and operational theory of automatic transmissions/transaxles; the complete disassemble and reassemble of two different automatic transmission/transaxles with all clutch pack clearances; end-play measurements; including proper use of special disassemble and reassembly tools; and access and interpret scan tool use and diagnostic procedures for evaluating the automatic transmission data. (Prerequisites: AUTO 1000, AUTO 1010, and AUTO 1167)(3 credits lecture/3 credits lab)

B. COURSE EFFECTIVE DATES: 01/13/2014 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. General transmission and transaxle diagnosis
2. Transmissions and transaxle maintenance and adjustment
3. In-vehical transmission and transaxle repair
4. Off-vehicle transmission and transaxle repair

D. LEARNING OUTCOMES (General)

1. Perform an automatic transmission service.
2. Describe clutch and band operation.
3. Explain power flow.
4. Show accumulator and servo operation.
5. Describe conditions for each shift to occur.
6. Inspect seals, bushing, and bearings.
7. Name the parts of the torque converter.
8. Interpret scan tool data on diagnostic trouble codes.
9. Evaluate scan tool data for speed sensor errors.
10. Distinguish if value body solenoids are within specification.
11. Disassemble and reassemble an automatic transmission.
12. Apply air test to clutch packs during assembly.
13. Measure in-put shaft end-play.
14. Examine oil pump for wear.
15. Report pros and cons of one transmission model to class.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted