DIES 2395: Caterpillar C7 Electronic Diesel Engine Fundamentals and Electronic Trouble

A. COURSE DESCRIPTION

   Credits: 3
   Lecture Hours/Week: 2
   Lab Hours/Week: 2
   OJT Hours/Week: *
   Prerequisites: None
   Corequisites: None
   MnTC Goals: None

   This course is an introductory course on Caterpillar C7 electronic diesel engines. Specific study will include the Hydraulically actuated Electronically Controlled Unit Injector (HEUI) fuel system, component disassembly and reassembly procedures, and correct adjustments to fuel system and electronic troubleshooting. Current industry-training equipment such as Caterpillar Service Information System (SIS) and Caterpillar Electronic Technician (ET) will be used to troubleshoot and repair Caterpillar C7 electronic diesel engines.

B. COURSE EFFECTIVE DATES: 12/06/2018 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

   1. Demonstrate proper shop safety and personal engine repair safety practices.
   2. Identify Caterpillar repair practices using Caterpillar Service Information System (SIS).
   3. Demonstrate applications of Caterpillar Electronic Technician (ET).
   4. Identify major Caterpillar HEUI fuel system and engine components.
   5. Demonstrate correct Caterpillar engine disassembly and reassembly procedures.
   6. Demonstrate correct industry troubleshooting procedures.

D. LEARNING OUTCOMES (General)

   1. The learner will demonstrate an understanding of obtaining current industry information and proper repair procedures using Caterpillar Service Information System (SIS).
   2. The learner will demonstrate the function, operation, correct repair, and adjustment procedures on current Caterpillar C7 electronic diesel engines.
   3. The learner will demonstrate an understanding of Caterpillar Electronic Technician (ET) to properly communicate and troubleshoot Caterpillar C7 electronic diesel engines.
   4. The learner will demonstrate an understanding of basic diesel engine electronic fundamentals and apply the previous objectives to correctly troubleshoot and repair a Caterpillar C7 electronic diesel engine.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

   None

F. LEARNER OUTCOMES ASSESSMENT

   As noted on course syllabus
G. SPECIAL INFORMATION

None noted