



FLUID POWER SYSTEMS — HDTT 1109

A. Course Description

- **Credits:** 2.00
- **Lecture Hours/Week:** 1.00
- **Lab Hours/Week:** 1.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course covers the introduction to basic hydraulics and is designed to promote understanding of hydraulic theory and application related to hydraulic systems, tools, and equipment used in heavy duty trucks. The student will study principles of hydraulics, operation, component identification, and preventive maintenance. Also included will be basic information pertaining to heavy truck hydraulic brake components. Prerequisites: None

B. Course Effective Dates: 3/22/98 – Present

C. Outline of Major Content Areas

As noted on course syllabus

D. Learning Outcomes

1. define Pascals law
2. define bernoulli's principle
3. define hydraulic pump types
4. define hydraulic system applications
5. disassemble hydraulic actuator
6. disassemble hydraulic control valves
7. disassemble hydraulic pump
8. explain basic hydraulic preventive maint.
9. explain basic hydraulic principles
10. explain basic hydraulic systems
11. explain hydraulic actuator operation
12. explain hydraulic brake component operation
13. explain hydraulic pump operation
14. explain hydro-vac operation

15. explain manual bleeding procedures
16. explain power booster operation
17. explain pressure bleeding procedures
18. explain troubleshooting procedures
19. identify hydraulic accumulators
20. identify hydraulic actuator types
21. identify hydraulic brake components
22. identify hydraulic circuits
23. identify hydraulic control valves
24. identify hydraulic fluids
25. identify hydraulic line fittings
26. identify hydraulic lines
27. identify hydraulic oil coolers
28. identify hydraulic reservoirs
29. identify hydraulic test equipment
30. identify pressure relief valves

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

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted