



SUSPENSIONS AND STEERING SYSTEMS — HDTT 1215

A. Course Description

- **Credits:** 4.00
- **Lecture Hours/Week:** 2.00
- **Lab Hours/Week:** 2.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course covers the identification, inspection techniques, repair and adjustment procedures, and alignment checks of the components associated with the variety of frames and suspensions common to heavy trucks. Students will be instructed in identifying the various types of truck steering systems and components. The students learn and practice inspection disassembly, reassembly, and alignment procedures. Manual and power steering sectors and pumps are included. 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. adjust 5th wheel
2. adjust lower steering linkage components
3. assemble lower steering linkage components
4. assemble manual steering sectors
5. assemble power steering pumps
6. assemble power steering sectors
7. assemble upper steering linkage components
8. check single axle frame and axle alignment
9. check tandem axle frame and axle alignment
10. describe 5th wheel operation
11. describe air ride component operation
12. describe auxiliary spring operation
13. describe camelback spring alignment

14. describe camelback spring component operation
15. describe constant rate spring operation
16. describe dayton spring alignment
17. describe dayton spring component operation
18. describe frame repair procedures
19. describe hendrickson rubber cushion operation
20. describe hendrickson spring component operation
21. describe manual steering sectors operation
22. describe power steering systems operation
23. describe progressive rate spring operation
24. describe reyco spring component operation
25. describe steering angle adjustments
26. describe steering angles
27. describe steering axle component usage
28. describe steering complaint repairs
29. describe steering problem insp. techniques
30. describe tire wear problems
31. describe toe-in adjustments
32. describe trailer suspension alignment
33. describe trailer suspension operation
34. disassemble lower steering linkage components
35. disassemble manual steering sectors
36. disassemble power steering pumps
37. disassemble power steering sectors
38. disassemble upper steering linkage components
39. identify 5th wheel components
40. identify air ride components
41. identify front spring components
42. identify manual steering sector types
43. identify power steering types
44. identify rear spring components
45. identify spring types
46. identify steering angles
47. identify steering axle components
48. identify tire wear problems
49. inspect frame
50. install 5th wheel
51. install rear axle springs and components
52. install steering axle springs
53. list common steering complaints

54. list steering problems
55. remove 5th wheel
56. remove rear suspension springs + components
57. remove steering axle springs
58. replace eaton axle king pins
59. replace rockwell axle king pins
60. troubleshoot steering problems

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

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted