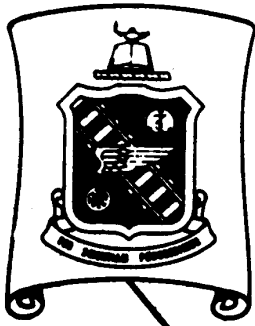
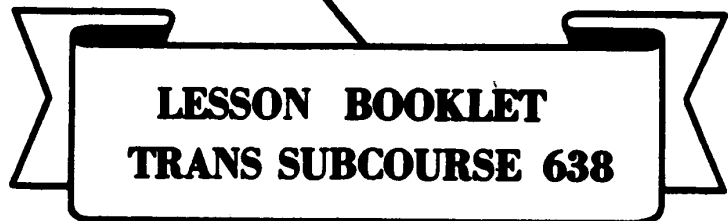


**CORRESPONDENCE COURSE OF THE
U. S. ARMY
TRANSPORTATION SCHOOL**



RAIL OPERATIONS, DISPATCHING



**THE ARMY INSTITUTE FOR PROFESSIONAL DEVELOPMENT
ARMY CORRESPONDENCE COURSE PROGRAM**

**A
I
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D**



Important: Electronic Examination Information

This paper subcourse does not contain the examination. The examination response sheet is included only as a mailing label. You must go to the following web site to complete the examination and submit it for grading.

http://www.aimsrdl.atsc.army.mil/accp/accp_top.htm

Registered students (those with ACCP userids and passwords) should key in the userid and password to LOGON, then click on the EXAM button to access the examination.

Students who have not yet registered should click on the REGISTER button on the lower right corner of the screen. Follow directions to create a userid and password. Then click on the EXAM button to access the examination.

**CORRESPONDENCE COURSE OF THE
U. S. ARMY TRANSPORTATION SCHOOL
SOLUTIONS**

TRANS SUBCOURSE 638.....Rail Operations, Dispatching.

(All references are to Reference Text 638.)

LESSON 1

<u>Weight</u>	<u>Exercise</u>	<u>Weight</u>	<u>Exercise</u>
2	1. F. (par. 1.5)	3	17. T. (par. 1.8 <u>d</u>)
2	2. T. (par. 1.8 <u>c</u>)	3	18. T. (par. 1.8 <u>d</u>)
2	3. F. (par. 1.10)	3	19. T. (par. 1.8 <u>d</u>)
2	4. T. (par. 1.6)	3	20. F. (par. 1.8 <u>d</u>)
2	5. T. (par. 1.5)	2	21. T. (par. 1.7 <u>f</u>)
2	6. F. (par. 1.6)	2	22. F. (par. 1.7 <u>e</u>)
2	7. T. (par. 1.3)	2	23. F. (par. 1.7 <u>c</u>)
2	8. F. (par. 1.6)	2	24. T. (par. 1.7 <u>e</u>)
2	9. T. (par. 1.3)	2	25. T. (par. 1.7 <u>a</u>)
2	10. T. (par. 1.3)	2	26. F. (par. 1.9)
2	11. F. (par. 1.4)	2	27. T. (pars. 1.8 <u>b</u> , 1.9)
2	12. T. (par. 1.4 <u>c</u>)	2	28. T. (par. 1.9)
2	13. T. (par. 1.4 <u>c</u>)	2	29. F. (par. 1.9)
2	14. T. (par. 1.4)	2	30. T. (par. 1.9)
2	15. F. (par. 1.4)	2	31. F. (par. 1.5)
3	16. T. (par. 1.8)	2	32. T. (par. 1.5)

All concerned will be careful that neither this solution nor information concerning the same comes into the possession of students or prospective students who have not completed the work to which it pertains.

<u>Weight</u>	<u>Exercise</u>	<u>Weight</u>	<u>Exercise</u>
2	33. F. (par. 1.5)	3	42. D. (par. 1.9)
2	34. T. (par. 1.5)	3	43. B. (par. 1.10)
2	35. F. (par. 1.5)	2	44. C. (par. 1.7 <u>d</u>)
2	36. F. (par. 1.10 <u>b</u>)		When a train loses its markers, it is no longer a train.
2	37. T. (par. 1.10 <u>c</u>)		
2	38. T. (par. 1.10 <u>a</u>)	2	45. C. (par. 1.8 <u>c</u>)
2	39. F. (par. 1.10 <u>a</u>)		Single-lining is running <u>against</u> the current of traffic.
2	40. T. (par. 1.10 <u>a</u>)		
3	41. B. (par. 1.10)	2	46. A. (par. 1.3)

LESSON 2

2	1. F. (par. 3.8)	2	13. T. (par. 2.9)
2	2. T. (par. 2.3)	2	14. F. (par. 2.9)
2	3. F. (par. 3.13)	2	15. T. (par. 2.9)
2	4. T. (par. 3.13)	2	16. F. (par. 2.9)
2	5. F. (par. 3.13)	2	17. T. (par. 2.9)
2	6. T. (par. 3.13)	2	18. F. (par. 3.3)
2	7. F. (par. 3.13)	2	19. F. (par. 3.3)
2	8. T. (par. 2.5)	2	20. F. (par. 3.3)
2	9. T. (par. 2.5 <u>a</u>)	2	21. T. (par. 3.3)
2	10. F. (par. 2.5 <u>a</u>)	2	22. T. (par. 3.3)
2	11. F. (par. 2.5 <u>a</u>)	2	23. F. (par. 2.6)
2	12. T. (par. 2.5 <u>d</u>)	2	24. F. (par. 2.6 <u>b</u>)

<u>Weight</u>	<u>Exercise</u>	<u>Weight</u>	<u>Exercise</u>
2	25. F. (par. 2.6 <u>d</u>)	2	38. E. (par. 2.10)
2	26. T. (par. 2.6 <u>b</u>)	2	39. B. (par. 2.8)
2	27. T. (par. 2.6 <u>a</u>)	2	40. D. (par. 2.5)
2	28. T. (par. 2.2)	2	41. C. (par. 2.11 <u>a</u>)
2	29. T. (par. 2.2)	2	42. A. (par. 2.7)
2	30. F. (par. 2.2)	2	43. A. (par. 3.12)
2	31. T. (par. 2.2)	2	44. C. (par. 3.11)
2	32. F. (par. 2.2)	2	45. B. (par. 3.10)
2	33. T. (par. 2.12)	2	46. A. (par. 2.11 <u>a</u>)
2	34. F. (par. 2.12)	2	47. C. (par. 3.4 <u>e</u> (2), footnote)
2	35. T. (par. 2.12)	2	48. B. (app. II)
2	36. T. (par. 2.12)	2	49. C. (app. II)
2	37. F. (par. 2.12)	2	50. B. (app. II)

LESSON 3

1	1. F. (par. 4.6)	2	9. F. (par. 4.8 <u>e</u>)
1	2. F. (par. 4.3 <u>a</u> (2))	2	10. F. (par. 4.8 <u>e</u>)
1	3. T. (par. 4.4 <u>a</u>)	1	11. F. (par. 4.11 <u>a</u>)
1	4. T. (par. 4.3 <u>a</u> (1))	1	12. T. (par. 4.11 <u>b</u>)
1	5. T. (par. 4.5)	1	13. T. (par. 4.10 <u>a</u>)
2	6. T. (par. 4.8 <u>e</u>)	1	14. F. (par. 4.11 <u>a</u>)
2	7. F. (par. 4.8 <u>e</u>)	1	15. T. (par. 4.11 <u>a</u>)
2	8. T. (par. 4.8 <u>e</u>)	2	16. F. (par. 4.3 <u>d</u>)

<u>Weight</u>	<u>Exercise</u>	<u>Weight</u>	<u>Exercise</u>
2	17. T. (par. 4.4 <u>a</u>)	2	39. T. (par. 4.7)
2	18. T. (par. 4.4 <u>a</u>)	2	40. F. (par. 4.7 <u>a</u> ; footnote)
2	19. F. (par. 4.4 <u>a</u>)	2	41. T. (par. 4.8 <u>d</u>)
2	20. T. (par. 4.3 <u>d</u>)	2	42. T. (par. 4.8 <u>a</u>)
2	21. F. (par. 4.10 <u>a</u>)	2	43. F. (par. 4.8 <u>e</u>)
2	22. F. (par. 4.10 <u>b</u>)	2	44. F. (par. 4.8)
2	23. T. (par. 4.10 <u>a</u>)	2	45. T. (par. 4.8 <u>b</u>)
2	24. F. (par. 4.10 <u>b</u>)	2	46. T. (par. 4.7 <u>a</u>)
2	25. T. (par. 4.10 <u>a</u>)	2	47. F. (par. 4.7 <u>a</u> ; footnote)
1	26. T. (par. 4.9)	2	48. F. (par. 4.7 <u>a</u>)
1	27. T. (par. 4.9 <u>b</u>)	2	49. F. (pars. 4.2 <u>a</u> , <u>b</u> , 4.7 <u>a</u> ; footnote)
1	28. F. (par. 4.9 <u>a</u>)	2	50. T. (par. 4.7 <u>a</u> ; footnote)
1	29. F. (par. 4.9 <u>b</u>)	2	51. F. (par. 4.7)
1	30. T. (par. 4.9 <u>b</u>)	2	52. F. (par. 4.6)
2	31. T. (par. 4.3 <u>c</u>)	2	53. T. (par. 4.6)
2	32. T. (par. 4.3 <u>a</u> (3))	2	54. F. (par. 4.6)
2	33. T. (pars. 4.3 <u>c</u> , 4.5)	2	55. T. (par. 4.6)
2	34. T. (par. 4.3 <u>c</u>)	1	56. B. (par. 4.3 <u>a</u> (1))
2	35. F. (par. 4.3 <u>d</u>)	1	57. A. (par. 4.3 <u>a</u> (3))
2	36. F. (par. 4.7 <u>a</u>)	1	58. C. (par. 4.4 <u>a</u>)
2	37. T. (par. 4.7 <u>a</u>)	1	59. B. (par. 4.3 <u>a</u> (2))
2	38. F. (par, 4.7 <u>a</u>)	1	60. B. (par. 4.3 <u>a</u> (1))

LESSON 4

<u>Weight</u>	<u>Exercise</u>	<u>Weight</u>	<u>Exercise</u>
1	1. T. (par. 5.4)	2	22. T. (par. 5.7)
1	2. F. (par. 5.4)	2	23. F. (par. 5.7)
1	3. F. (app. III, rule 206(8))	2	24. T. (par. 5.7)
1	4. F. (app. III, rule 200)	2	25. T. (par. 5.18)
2	5. T. (app. III, rule 206(6))	2	26. T. (par. 5.18)
2	6. F. (app. III, rule 206(4))	2	27. F. (par. 5.19)
2	7. F. (app. III, rule 206(5))	2	28. T. (par. 5.18)
2	8. F. (app. III, rule 206(1))	2	29. F. (par. 5.19)
2	9. F. (app. III, rule 206(6))	2	30. T. (par. 5.8)
2	10. T. (par. 5.6)	2	31. T. (par. 5.8)
2	11. F. (par. 5.6)	2	32. F. (par. 5.8)
2	12. T. (par. 5.6)	2	33. F. (par. 5.8)
2	13. T. (par. 5.6)	2	34. F. (par. 5.8)
2	14. F. (par. 5.6)	2	35. F. (par. 5.9)
2	15. T. (par. 5.5 <u>d</u>)	2	36. T. (par. 5.9)
2	16. T. (par. 5.5 <u>c</u>)	2	37. F. (par. 5.9)
2	17. T. (par. 5.5 <u>c</u>)	2	38. T. (par. 5.9)
2	18. F. (par. 5.5 <u>c</u> ; app. III, rule 208(2))	2	39. F. (par. 5.9)
2	19. F. (par. 5.5 <u>c</u>)	2	40. F. (app. III, rule 204(3))
2	20. F. (par. 5.7)	2	41. T. (app. III, rule 204(4))
2	21. T. (par. 5.7)		

<u>Weight</u>	<u>Exercise</u>
2	42. T. (app. III, rule 204(3))
2	43. F. (app. III, rule 204(2))
2	44. F. (app. III, rule 204(1))
1	45. A. (par. 5.20)
1	46. E. (par. 5.21)
1	47. D. (par. 5.23)
1	48. F. (par. 5.24)
1	49. J. (par. 5.11)
1	50. I. (par. 5.14)
1	51. H. (par. 5.28)
1	52. B. (par. 5.22)
2	53. D. (par. 5.1)
2	54. A. (app. III, rule 201(2))
2	55. A. (par. 5.13)
2	56. C. (par. 5.10)

ANNEX B
REFERENCE TEXT 538
RAIL OPERATIONS DISPATCHING
MARCH 1976

TCHERS' RECORD OF TRAIN MOVEMENTS

(TM 55-206)

71416 RAILWAY OPERATING BATTALION

{DOUBLE TRACK}

Conroy

22 Dec 1976 (DATE)

218 (Col 6) (Col 9) (Col 2)				(Col 1) (Col 3) (Col 5) (Col 7)				
Page	Page	Page	Page	Page	Page	Page	Page	
256A	25	21	256A	Train	Extra	62	26	Extra
2570	270	251	2570	Engine	1980	420	450	2520
2005	Greg	Conroy	2005	Conductor	Brown	Laska	Neal	Nichols
2006	Hargan	W. H. S.	2006	Brakeman	James	Sims	Tapp	Watts
2007	Paul	Frank	2007	Brakeman	Hunt	Tapp	Snow	Runt
2008	Ramon	Dobbs	2008	Engineer	Frank	Garth	Long	Lewis
2009	Lewis	Jack	2009	Fireman	Carr	Blow	Knox	Burr
2010	2000	2011	2010	Time Reported	0100	0520	0800	0900
2011	2012	0230	2011	Time Allowed	0530	0820	1100	
Stations								
2012	2012	0611	2012	Conroy	2012	0807	1047	
2013	2013	0619	2013	DN	2013	0800	1040	
2014	2014	0627	2014	BL	2014	0714	1024	
2015	2015	0635	2015	MD	2015	0722	1022	
2016	2016	0643	2016	RK	2016	0730	1010	
2017	2017	0651	2017	OG	2017	0738	1008	
2018	2018	0659	2018	WD	2018	0746	0956	
2019	2019	0707	2019	FV	2019	0754	0944	
2020	2020	0715	2020	BO	2020	0802	0932	1016
2021	2021	0723	2021	LY	2021	0810	0920	0947
2022	2022	0731	2022	AY	2022	0818	0918	0947
2023	2023	0739	2023	MAXEY	2023	0826	0916	0947
2024	2024	0747	2024		2024	0834	0904	0947
2025	2025	0755	2025		2025	0842	0892	0947
2026	2026	0803	2026		2026	0850	0880	0947
2027	2027	0811	2027		2027	0858	0888	0947
2028	2028	0819	2028		2028	0906	0896	0947
2029	2029	0827	2029		2029	0914	0904	0947
2030	2030	0835	2030		2030	0922	0912	0947
2031	2031	0843	2031		2031	0930	0920	0947
2032	2032	0851	2032		2032	0938	0928	0947
2033	2033	0859	2033		2033	0946	0936	0947
2034	2034	0907	2034		2034	0954	0944	0947
2035	2035	0915	2035		2035	1002	0952	0947
2036	2036	0923	2036		2036	1010	0950	0947
2037	2037	0931	2037		2037	1018	0958	0947
2038	2038	0939	2038		2038	1026	0966	0947
2039	2039	0947	2039		2039	1034	0974	0947
2040	2040	0955	2040		2040	1042	0982	0947
2041	2041	1003	2041		2041	1050	0990	0947
2042	2042	1011	2042		2042	1058	0998	0947
2043	2043	1019	2043		2043	1106	1006	0947
2044	2044	1027	2044		2044	1114	1014	0947
2045	2045	1035	2045		2045	1122	1022	0947
2046	2046	1043	2046		2046	1130	1030	0947
2047	2047	1051	2047		2047	1138	1038	0947
2048	2048	1059	2048		2048	1146	1046	0947
2049	2049	1107	2049		2049	1154	1054	0947
2050	2050	1115	2050		2050	1202	1062	0947
2051	2051	1123	2051		2051	1210	1070	0947
2052	2052	1131	2052		2052	1218	1078	0947
2053	2053	1139	2053		2053	1226	1086	0947
2054	2054	1147	2054		2054	1234	1094	0947
2055	2055	1155	2055		2055	1242	1102	0947
2056	2056	1203	2056		2056	1250	1110	0947
2057	2057	1211	2057		2057	1258	1118	0947
2058	2058	1219	2058		2058	1306	1126	0947
2059	2059	1227	2059		2059	1314	1134	0947
2060	2060	1235	2060		2060	1322	1142	0947
2061	2061	1243	2061		2061	1330	1150	0947
2062	2062	1251	2062		2062	1338	1158	0947
2063	2063	1259	2063		2063	1346	1166	0947
2064	2064	1307	2064		2064	1354	1174	0947
2065	2065	1315	2065		2065	1402	1182	0947
2066	2066	1323	2066		2066	1410	1190	0947
2067	2067	1331	2067		2067	1418	1198	0947
2068	2068	1339	2068		2068	1426	1206	0947
2069	2069	1347	2069		2069	1434	1214	0947
2070	2070	1355	2070		2070	1442	1222	0947
2071	2071	1403	2071		2071	1450	1230	0947
2072	2072	1411	2072		2072	1458	1238	0947
2073	2073	1419	2073		2073	1506	1246	0947
2074	2074	1427	2074		2074	1514	1254	0947
2075	2075	1435	2075		2075	1522	1262	0947
2076	2076	1443	2076		2076	1530	1270	0947
2077	2077	1451	2077		2077	1538	1278	0947
2078	2078	1459	2078		2078	1546	1286	0947
2079	2079	1507	2079		2079	1554	1294	0947
2080	2080	1515	2080		2080	1602	1302	0947
2081	2081	1523	2081		2081	1610	1310	0947
2082	2082	1531	2082		2082	1618	1318	0947
2083	2083	1539	2083		2083	1626	1326	0947
2084	2084	1547	2084		2084	1634	1334	0947
2085	2085	1555	2085		2085	1642	1342	0947
2086	2086	1603	2086		2086	1650	1350	0947
2087	2087	1611	2087		2087	1658	1358	0947
2088	2088	1619	2088		2088	1706	1366	0947
2089	2089	1627	2089		2089	1714	1374	0947
2090	2090	1635	2090		2090	1722	1382	0947
2091	2091	1643	2091		2091	1730	1390	0947
2092	2092	1651	2092		2092	1738	1398	0947
2093	2093	1659	2093		2093	1746	1406	0947
2094	2094	1707	2094		2094	1754	1414	0947
2095	2095	1715	2095		2095	1802	1422	0947
2096	2096	1723	2096		2096	1810	1430	0947
2097	2097	1731	2097		2097	1818	1438	0947
2098	2098	1739	2098		2098	1826	1446	0947
2099	2099	1747	2099		2099	1834	1454	0947
2100	2100	1755	2100		2100	1842	1462	0947

SAMPLE

INSTRUCTIONS

1. temperatures shall be reported at least once in six hours by and recorded for at least one station
 strict, and shall be recorded for such other stations as report weather conditions.
 shall sign his name and record the time of going on and off duty in space provided.
 the case may be, shall be shown at the initial and final time of each movement.
 each train shall be shown at least at one station, and at such other stations as may be required
 reporting stations shall be recorded, where trains stop at reporting stations, both arriving and
 recorded.
 spaces of historical interest will be shown on back of sheet.

REC

STATION	1901 A. M.
DN	Clear - Cold
RK	Clear - Cool
WD	Cloudy - Windy
BO	Cool - Light Rain
AY	Rainy - High Winds

RAIL OPERATIONS, DISPATCHING
SUBCOURSE TR0638
EDITION 6

14 CREDIT HOURS

INTRODUCTION

He has often been described as the mastermind behind the movement of all freight and passenger trains over a railroad division. He remains entirely in the background; however, his influence is exerted through all tower and station operations along the way who copy and deliver his instructions to the passing train crews. He is the train dispatcher.

Single-track railroading does not change geographically; however the inherent danger in operating opposing trains on the same track does not lessen with the locale. Planning well in advance, exercising a keen mind, issuing proper orders, and making certain they are understood represent the contribution a train dispatcher can make to safe, efficient train movement. Properly interpreting and executing the orders rest with the road crews hauling the moving trains.

While no text can possibly qualify you as a train dispatcher, an understanding of the fundamentals of the subject should place you in a better position to carry out any military assignment you may receive that involves moving troops and supplies by rail. The scope of this subcourse covers the basic principles and fundamentals of dispatching; the duties of those in the dispatch office; dispatcher communications; the right and superiority of trains; and samples of different train orders.

This is a four-lesson subcourse, including four lesson exercises, lesson solutions and an examination:

	<u>Credit Hours</u>
Lesson 1 - Principles	3
Lesson 2 - Documents, Staff, and Communications	3
Lesson 3 - Superiority of Trains	3
Lesson 4 - Train Orders	3
	2

To complete this subcourse, you must--

- Study the text material assigned for each lesson.
- Answer each question in all the lesson exercises.
- Check your answers against the solutions if you answered any question incorrectly. Study the reference and evaluate all possible exercise solutions; make sure you understand why the correct answer is the best choice.
- After completing the lesson exercises to your satisfaction, complete the examination.

Text and Materials Furnished: Trans Subcourse TR0638, Rail Operations, March 1976, with annexes A through D.

LESSON 1.....	Principles.
CREDIT HOURS.....	3.
TEXT ASSIGNMENT.....	Reference Text 638, pars. 1.1-1.11; annex A.
MATERIALS REQUIRED.....	None.

LESSON OBJECTIVE..... To enable you to explain fundamental principles of train dispatching and the different methods of dispatching used when the number of main tracks varies.

SUGGESTIONS..... None.

EXERCISES

Weight True-False

(Write T or F beside each question.)

- 2 1. Centralized Traffic Control is used primarily on double track.
- 2 2. In single-lining, you get a train around an obstruction by running it against the current of traffic.
- 2 3. In a CTC system, a train crew must know in advance its exact path of travel.
- 2 4. The timetable authorizes a first-class train to proceed according to schedule.
- 2 5. In a theater of operations, troop trains may be assigned a higher priority than passenger trains.

Cluster True-False

(Each of the following groups of questions is related to the statement that precedes them. Write by each question T or F.)

FIRST GROUP

With regard to train orders, it is true that they:

- 2 6. Are delivered to the engine and train crew by the dispatcher.
- 2 7. May be either helpful or restrictive.
- 2 8. Tell a crew what not to do.
- 2 9. Contain the dispatcher's instructions.

Weight

- 2 10. Help to operate the trains not listed in the timetable.

SECOND GROUP

Of operating rules 86 and S-87, you learned that they:

- 2 11. Are taken word for word from the standard rules that all rail lines use.
- 2 12. Are superseded when train orders conflict with them.
- 2 13. Both apply to extra trains.
- 2 14. Both apply to single tracks.
- 2 15. Both apply to double tracks.

THIRD GROUP

To accomplish a single-lining movement on double track involving a stalled westbound train, a first-class westbound train, and a second-class eastbound train, the dispatcher would probably:

- 3 16. Hold the eastbound train.
- 3 17. Issue a form D-R order and a form J order.
- 3 18. Annul the holding order when the single-lining is completed.
- 3 19. Permit the least delay possible to the first-class train.
- 3 20. Permit the eastbound train to run against the current of traffic.

FOURTH GROUP

Of the single-track example in paragraph 1.7 involving an eastbound extra, a westbound first-class train, and a westbound extra, it is true that:

- 2 21. After the meet, the eastbound extra proceeded to OG under the authority of rule S-87.

Weight

- 2 22. To accomplish this meeting and passing, the first-class train would need train orders.
- 2 23. The westbound extra would take the eastbound siding at the meeting point.
- 2 24. The train orders of the two extras would not affect the first-class train.
- 2 25. Train No. 9 is operating strictly according to the timetable.

FIFTH GROUP

In your study of multiple-track systems, you learned that:

- 2 26. The dispatcher usually refuses to switch a train from high- to low-speed track.
- 2 27. If both tracks in one direction were blocked or unsafe, it would be necessary to run against the current of traffic.
- 2 28. Fast freights and express trains must run as fast as passenger trains when using high-speed tracks.
- 2 29. High-speed tracks are used exclusively by passenger trains.
- 2 30. High-speed tracks normally are on the outside.

SIXTH GROUP

In a theater of operations, train dispatching is characterized by which of the following?

- 2 31. Passenger trains maintain the highest priority.
- 2 32. A phase of operations may exist wherein civilians operate the railroads while the military controls them.
- 2 33. Heavy trains at high speed are necessary.
- 2 34. Damaged rail facilities may necessitate a change in the dispatching method used.

Weight

- 2 35. The method of dispatching differs little from that used on commercial railroads.

SEVENTH GROUP

Among the dispatching operations which can be accomplished from the CTC board are:

- 2 36. Changing a train's permissive route after the signal becomes visible to the engineer.
- 2 37. Allowing two trains to pass without stopping either.
- 2 38. Directing a train into a siding.
- 2 39. Observing the progress of trains on other divisions.
- 2 40. Checking on a train's speed.

Matching

The four basic types of rail operation have individual characteristics which affect dispatching methods. Column I lists some of the individual characteristics and column II lists the types of rail operation. Match the types in column II with their characteristics in column I by writing the proper letter beside the question. Choices in column II may be used once, more than once, or not at all.

Column I

Column II

- | | | |
|---|--|--------------------|
| 3 | 41. Can provide nonstop meets by remote control. | A. Single track. |
| 3 | 42. Provides both high- and low-speed tracks. | B. CTC. |
| 3 | 43. Is the simplest rail operating method of the four. | C. Double track. |
| | | D. Multiple track. |

Analytical

Using the following key, state your reaction to each of the next three questions by writing the proper letter by each question.

Weight

- A. The underscored statement is true, and the reason for it or result of it is true.
- B. The underscored statement is true, but the reason or result is false.
- C. The underscored statement is false.

- 2 44. If the caboose loses its markers, a train can still fulfill a meet because a train still exists.
- 2 45. Current of traffic is the same as single-lining when the superior direction is eastbound.
- 2 46. The timetable establishes the class and directional superiority of trains, but train orders may amend, annual, or supersede it.

LESSON ASSIGNMENT SHEET

TRANS SUBCOURSE 638 Rail Operations, Dispatching.

LESSON 2 Documents, Staff, and Communications.

CREDIT HOURS 3.

TEXT ASSIGNMENT Reference Text 638, pars. 2.1-3.14; appendix II; and annexes B, C, and D.

MATERIALS REQUIRED None.

LESSON OBJECTIVE To enable you to explain how some of the important records of the dispatching office are maintained, what the duties of dispatching office personnel are, and how the dispatcher communicates with others.

SUGGESTIONS None.

EXERCISES

Weight

True-False

(Write T or F beside each question.)

- 2 1. The TRS installs and maintains any radio facilities authorized for its use in a theater.
- 2 2. Each employee engaged in train operation must possess a copy of the current employees' timetable.

Cluster True-False

(Each of the following groups of questions is related to the statement that precedes them. Write T or F by each question.)

FIRST GROUP

When the dispatcher uses the fleet operation method, it is true that:

Weight

- 2 3. Operations are being conducted on double track.
- 2 4. Every train would be operating as an extra.
- 2 5. Communication facilities would be operational.
- 2 6. Its use is generally limited to a theater of operations.
- 2 7. The last train in a specified direction would run without train orders.

SECOND GROUP

The train sheet is a written record that:

- 2 8. Shows at a glance how each train is faring.
- 2 9. Shows the OS time in such a way that the dispatcher can easily change meeting points.
- 2 10. Indicates the westbound trains in the columns to the right of the station call letters.
- 2 11. Has the OS time of westbound trains reading from bottom to top.
- 2 12. Includes a column for weather entries from the various stations.

THIRD GROUP

Basic problems of the dispatcher in getting trains over the road on schedule include:

- 2 13. Keeping extra trains rolling to prevent their stalling.
- 2 14. Keeping extra trains sidetracked as much as possible.
- 2 15. Preventing the delay of first-class trains by extras.
- 2 16. Keeping extras moving fast when they are hauling expedite tonnage.

Weight

- 2 17. Avoiding the necessity of pusher assistance from other engines.

FOURTH GROUP

If a dispatcher were sending a train order over the wire, it would be permissible to interrupt him to:

- 2 18. Ask if No. 6 will be displaying signals.
2 19. Ask the correct time if your watch had stopped.
2 20. Inquire if No. 4 were on time.
2 21. Report a wreck.
2 22. Report a condition that might affect the order he is sending.

FIFTH GROUP

Concerning the methods employed by the dispatcher in handling extra trains, it would be correct to state that:

- 2 23. The crew of an extra is unaware of the presence of scheduled trains except through train orders.
2 24. The dispatcher determines the actual meeting point of two opposing trains in the first meet order.
2 25. Two extras in opposing directions generally average the same number of kilometers in a specified period of time.
2 26. When a dispatcher permits extra trains to oppose each other, he gives both trains a meet order.
2 27. A dispatcher does not simply run an extra train--he creates it.

SIXTH GROUP

It is true of the employees' timetable that it:

- 2 28. Lists the locations of passing sidings and their capacities.

Weight

- 2 29. May interpret some of the railroad's standard rules.
- 2 30. Lists company dentists and podiatrists.
- 2 31. Indicates reduced speed areas.
- 2 32. Seldom includes instructions on how to proceed in special situations.

SEVENTH GROUP

Regarding distributing cars in a theater of operations, it is true that:

- 2 33. The procedure is extremely different from that followed in peacetime.
- 2 34. Adherence to boxcar classification is strictly enforced.
- 2 35. All cars must be unloaded immediately when received at forward points.
- 2 36. It is vital to keep all empty cars moving from front to rear areas for reloading.
- 2 37. A surplus of empty cars usually exists.

Matching

A number of key personnel in the dispatching office are concerned with the orderly and efficient dispatching of trains and with maintaining important records and reports. Column I outlines some of the duties or qualifications of the personnel; column II lists some of these individuals. Match the individuals listed in column II with the duties or qualifications in column I by writing the proper letter beside the question. Choices in column II may be used once, more than once, or not at all.

Column I

Column II

- 2 38. Receives consists of trains moving toward his terminal. A. Chief dispatcher.

Weight

	<u>Column I</u>	<u>Column II</u>
2	39. Must relieve a trick dispatcher in an emergency.	B. Assistant chief dispatcher.
2	40. Maintains train sheet.	C. Car distributor.
2	41. Advises when trains of empties are to be moved.	D. Train dispatcher.
2	42. Is in charge of a division terminal's dispatching office.	E. Telegraph operator.

Multiple Choice

(Each question in this group contains one and only one correct answer. Make your choice by circling the proper letter.)

- 2 43. The three parts of a radiotelephone message are:
- A. The heading, text, and ending.
 - B. The call sign of the station called, the proword THIS IS, and the call sign of the calling station.
 - C. OVER, ROGER, and WILCO.
 - D. The heading, the proword MESSAGE FOLLOWS, and the ending.
- 2 44. Procedure words may be described as those words or phrases used:
- A. In the phonetic alphabet.
 - B. Exclusively in the heading of a radio message.
 - C. As a substitute for one or more sentences in any part of a radio message.
 - D. Exclusively on the dispatcher's telephone circuit.
- 2 45. Along with other members of the military services, the TRS uses _____ in radiotelephone transmission.
- A. International Morse Code.
 - B. International Civil Aviation Organization phonetic alphabet and numerals.
 - C. International Telephone and Telegraph phonetic code.
 - D. Western Union's phonetic alphabet and numerals.

Weight

- 2 46. On the average railroad, in what way are empty cars handled? They:
- A. May be moved along the railroad in stages if moved toward a point where they will be loaded eventually.
 - B. Are reported on a separate situation report when they have not been switched.
 - C. Are stored at one point and moved only as required for loading.
 - D. Are requested by individual shippers on a form sent directly to the train dispatcher.
- 2 47. If a crew sees a signal giving a "yellow block, " it should:
- A. Reduce speed to 5 kph.
 - B. Stop for train orders.
 - C. Proceed, prepared to stop at next signal.
 - D. Expect a message to be delivered at the next station.

SITUATION

A railroad's employees' timetable is a ready source of information for its personnel. Appendix II of the reference text contains the employees' timetable for the Elwood division.

REQUIREMENT

Answer the following three multiple-choice questions on the basis of the employees' timetable in appendix II. Each question contains one and only one correct answer. Make your choice by circling the proper letter.

- 2 48. Elwood division's longest siding has a capacity of _____ cars.
- A. 109.
 - B. 115.
 - C. 125.
 - D. 133.

Weight

- 2 49. According to the speed restrictions in the Elwood division timetable, the authorized speed when passing or meeting trains on opposing tracks is _____ kph.
- A. 25.
 - B. 35.
 - C. 40.
 - D. 50.
- 2 50. Siding capacity estimates in the Elwood division are based on trains having:
- A. 60 percent of 50-foot cars and 40 percent of shorter cars.
 - B. 80 percent of 40-foot cars and 20 percent of longer cars.
 - C. 82 percent of 50-foot cars and 18 percent of shorter cars.
 - D. 85 percent of 40-foot cars and 15 percent of longer cars.

LESSON ASSIGNMENT SHEET

TRANS SUBCOURSE 638.....Rail Operations, Dispatching.

LESSON 3.....Superiority of Trains.

CREDIT HOURS.....3.

TEXT ASSIGNMENT.....Reference Text 638, pars. 4.1-4.12.

MATERIALS REQUIRED.....None.

LESSON OBJECTIVE.....To enable you to explain the superiority of trains and to cite specific examples of how right, class, direction govern the handling of trains.

SUGGESTIONS.....None.

EXERCISES

Weight

True-False

(Write T or F beside each question.)

- 1 1. When a freight extra has more than one engine, both display white flags by day.
- 1 2. Class is superior to right.
- 1 3. The class of a train may be taken away from it if the dispatcher decides to run it as an extra.
- 1 4. Right is conferred by train order; class and direction by timetable.
- 1 5. Time and symbol freights are sometimes permitted to run ahead of slow passenger trains.

Cluster True-False

(Each of the following groups of questions is related to the statement that precedes them. Write by each question T or F.)

Weight

FIRST GROUP

In the example in paragraph 4.8e, the flagman whose faulty memory caused a bad wreck could have averted it if he had:

- 2 6. Complied with rule 108.
- 2 7. Kept completely out of sight of the approaching train.
- 2 8. Remembered whether he was "in" or "out".
- 2 9. Personally been able to learn from the dispatcher when to expect a train.
- 2 10. Protected against all scheduled westbound trains.

SECOND GROUP

A train loses its schedule when:

- 1 11. It is first class and is on time arriving at and 10 minutes late departing from a station.
- 1 12. The timetable changes and the train is not shown in the new timetable.
- 1 13. It is issued a run-late order by the dispatcher.
- 1 14. It is exactly 12 hours late arriving and only 11 hours 59 minutes late departing.
- 1 15. It arrives at a station more than 12 hours late.

THIRD GROUP

In your study of class and superiority of trains, you learned that:

16. An extra is usually superior to a fourth-class train going with the current of traffic.
- 2 17. An extra train has no class superiority.

Weight

- 2 18. Class cannot be raised or lowered by train order, but it can be taken away.
- 2 19. A second-class train may be changed to first-class by train order.
- 2 20. An extra is inferior to all regular trains.

FOURTH GROUP

From the discussion of the train orders often given to scheduled trains that are late, you learned that:

- 2 21. If a run-late order is issued and the engineer is told to run late the exact number of minutes he is behind schedule, he is free to make up the entire delay.
- 2 22. The run-late order cited in the text permits No. 19 to arrive at its destination earlier than does the wait order also shown.
- 2 23. If a train is late and no train orders are issued, the engineer can be allowed to make up some of the delay.
- 2 24. A wait order requires an engineer to make up the exact number of minutes specified by the dispatcher in the order.
- 2 25. When a dispatcher "puts out time" on a delayed train, his action may be helpful to inferior trains.

FIFTH GROUP

Concerning timetable schedules, it is true that:

- 1 26. A train order may help a train get back on schedule.
- 1 27. Yard crews must respect published schedules until they receive a train order directing otherwise.
- 1 28. A regular passenger train can run substantially ahead of schedule.
- 1 29. According to the example in paragraph 4.9, if a scheduled train were 5 minutes late at DN, BL, and MD (fig. 1.1), a crew at FV could expect the train to be late there also.

Weight

- 1 30. A timetable schedule cannot be permanently amended by train order.

SIXTH GROUP

According to the rules of train superiority, which of the following statements are true and which false?

- 2 31. A first-class train meeting a second-class one on a single track usually holds main track.
- 2 32. Direction is superior between trains of the same class.
- 2 33. A first-class train would be held to clear a second-class train if the latter had a train order giving it right.
- 2 34. In a single-track passing situation, a third-class westbound train would take siding to clear a second-class westbound one.
- 2 35. A westbound scheduled train must yield to an eastbound extra.

SEVENTH GROUP

A train order reading "Second 87 Eng 464 Run One Hour Late Conroy to Maxey" tells you that:

- 2 36. No. 87 has had trouble along the line.
- 2 37. An earlier train order had been issued to First 87.
- 2 38. First 87 would be an hour late at Maxey.
- 2 39. There are at least two sections to No. 87.
- 2 40. Green signals would be displayed if it is the last section.

EIGHTH GROUP

In connection with safe work-train operation, it is evident that:

- 2 41. Trains of superior class may have to protect against work trains in a theater of operations.

Weight

- 2 42. The work-train conductor must consult the timetable.
- 2 43. The flagman must flag the main track whenever the work train is in a siding.
- 2 44. Only scheduled trains need to be cleared without delay.
- 2 45. A work train may hold orders permitting it to work without protecting during certain hours.

NINTH GROUP

If you see a train composed of passenger coaches with green flags flying on the front of the locomotive, you would know that:

- 2 46. One or more sections are to follow and would bear a similar train number to the one you observed.
- 2 47. It would be safe to block the main after the train passed.
- 2 48. Only extra trains would be following on the same track until after dark.
- 2 49. It is superior by right, class, and direction.
- 2 50. It is a scheduled train with another section following.

TENTH GROUP

A train will be an extra if it:

- 2 51. Runs as the second section of a regularly scheduled first-class train.
- 2 52. Has green lights showing on the front of the locomotive.
- 2 53. Is run only when a yard has sufficient tonnage to justify its operation.
- 2 54. Is listed in the timetable.
- 2 55. Carries white flags on the front of the locomotive during daylight.

Weight

Matching

Right, class, and direction are the principles on which train dispatching is based. Column I contains statements which are true of right, class, or direction. Match the terms in column II with the statements in column I by writing the proper letter beside the question. Choices in column II may be used once, more than once, or not at all.

Column I

Column II

- | | | |
|---|--|---------------|
| 1 | 56. Conferred by train order. | A. Direction. |
| 1 | 57. Superior between trains of the same class. | B. Right. |
| 1 | 58. Cannot be reduced by train order. | C. Class. |
| 1 | 59. Superior to the other two designations. | |
| 1 | 60. Not conferred by timetable. | |

LESSON ASSIGNMENT SHEET

TRANS SUBCOURSE 638.....Rail Operations, Dispatching

LESSON 4.....Train Orders.

CREDIT HOURS.....3.

TEXT ASSIGNMENT.....Reference Text 638, pars. 5.1-5.29; appendix II.

MATERIALS REQUIRED.....None.

LESSON OBJECTIVE.....To enable you to (1) explain the various forms of train orders used in single- and double-track train dispatching; and (2) describe the extreme care necessary in transmitting, repeating, delivering, interpreting, and executing such orders.

SUGGESTIONS.....None.

EXERCISES

Weight

True-False

(Write T or F beside each question.)

- 1 1. Slow orders are usually in effect for a certain length of time.
- 1 2. A correct way of stating the time in a train order would be 1600 hours.
- 1 3. When handling train orders directly with the conductor or engineer, the "X" response must be used.
- 1 4. Train orders delivered by messenger have more authority than those issued by other means.

Cluster True-False

(Each of the following groups of questions is related to the statement that precedes them. Write T or F beside each question.)

Weight

FIRST GROUP

Rules for writing, relaying, and delivering train orders in appendix III include the following provisions:

- 2 5. The order must be sent to the relay office in the usual manner.
- 2 6. In transmitting train orders by telephone, the names of stations, sections, and direction of regular trains must merely be clearly pronounced.
- 2 7. The dispatcher underscores each word and figure in the order as he transmits it to the relay office.
- 2 8. When two or more engines are coupled, the numbers of both are used to designate the train.
- 2 9. The dispatcher gives "complete" directly to the destination office when a train order has been transmitted through a relay office.

SECOND GROUP

Concerning the use of the "X" response, it is true that it:

- 2 10. Is used to avoid delays to inferior trains.
- 2 11. Is used when the operator copying the order for the inferior train repeats the order last.
- 2 12. Is used in conjunction with orders involving at least two trains.
- 2 13. Changes the order to the superior train to a holding order.
- 2 14. May be given by two operators on the dispatcher's wire when both copy a train order.

THIRD GROUP

When a dispatcher transmits a train order to three operators:

Weight

- 2 15. The dispatcher underscores each word as each operator repeats it.
- 2 16. They copy the train order simultaneously.
- 2 17. The dispatcher writes the order in his train order book as he dictates to the operators.
- 2 18. The order is addressed first to the train farthest away to comply with rule 208.
- 2 19. They copy as much of the order as they need and deliver it to the trains involved.

FOURTH GROUP

Information found on the train register usually includes:

- 2 20. Train order instructions for arriving and departing trains.
- 2 21. Names of conductors on arriving and departing trains.
- 2 22. Type of signals displayed on a train, if any.
- 2 23. Names of engineers on all trains arriving and leaving.
- 2 24. Class and numbers of trains that have departed.

FIFTH GROUP

Concerning work trains and appropriate train orders for them, it would be correct to state that:

- 2 25. If the work-train crew is unable to comply with instructions to clear the main by a specified time, a flagman must protect the work train.
- 2 26. Work trains protect against other extra trains.
- 2 27. A train order that applies to a work train on double track would be termed a form D-J order.
- 2 28. A work train order should not tell the crew to protect against extras unless the crew has been previously told not to protect.

Weight

- 2 29. For maximum safety in work-train operation, the working limits should extend 10 km or more.

SIXTH GROUP

A train message is sometimes used to:

- 2 30. Caution an engineer about exceeding the speed limit.
2 31. Annul previous instructions from the dispatcher.
2 32. Relay information to a number of trains simultaneously.
2 33. Amend previously issued train orders.
2 34. Stop trains for orders which require signatures.

SEVENTH GROUP

It is true of the 19 and 31 orders that:

- 2 35. The operator is responsible for reading the 31 order to the flagman.
2 36. The 19 order is delivered by a message loop.
2 37. Military railroads are required to use them.
2 38. When the 31 order is delivered, the train must be stopped and the order signed for.
2 39. They are red and blue in color.

EIGHTH GROUP

According to rule 204 in appendix III, train orders are handled and distributed as follows:

- 2 40. Firemen are unconcerned with the contents of train orders.
2 41. Each engineer on a train should be supplied with a copy of all orders affecting the train.

Weight

- 2 42. If necessary, the brakeman should remind the engineer of the contents of a train order.
- 2 43. Orders addressed to operators restricting train movements are for their use only.
- 2 44. Train orders meant for a train are addressed to the train by engine number only.

Matching

The various forms of train orders each has a specific purpose of applicable condition, as listed in column I. The forms of train orders are listed in column II. Match a form of train order in column II with the purpose of condition listed in column I by writing the proper letter beside the question. Choices in column II may be used once, more than once, or not at all.

Column I

Column II

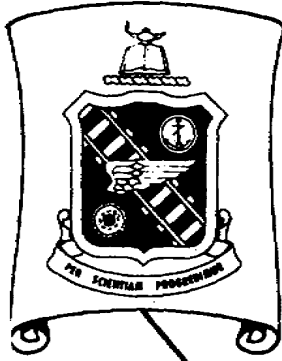
- | | | |
|---|--|--------------|
| 1 | 45. When the dispatcher desires to hold a train. | A. Form J. |
| | | B. Form L. |
| 1 | 46. A schedule is being annulled. | C. Form G. |
| | | D. Form D-M. |
| 1 | 47. To annul part of an order on double track. | E. Form K. |
| | | F. Form S-P. |
| 1 | 48. To supersede an order or part of an order on single track. | G. Form D-R. |
| | | H. Form X. |
| 1 | 49. Provides for a meet on single track. | I. Form E. |
| | | J. Form S-A. |
| 1 | 50. Authorizes a train to run late. | |
| 1 | 51. Is a slow order. | |
| 1 | 52. An order is being annulled. | |

Weight

Multiple Choice

(Each question in this group contains one and only one correct answer. Make your choice by circling the proper letter.)

- 2 53. When the dispatcher issues a train order, he must be certain that it:
- A. Specifies time in even hours when possible.
 - B. Can be easily explained to the road crews by the operator.
 - C. Supplements the knowledge of the situation held by the train crews.
 - D. Is expressed in language that is impossible to misinterpret.
- 2 54. Rules for properly issuing train orders for movements not provided by timetable require that:
- A. No erasures, alterations, or interlineation be on the written copy.
 - B. The orders be lengthy for clarity.
 - C. Figures should be surrounded by brackets.
 - D. They bear the signature of the trick dispatcher.
- 2 55. The train order form that gives an inferior train right over an opposing superior train on single track between named points is:
- A. Form S-C.
 - B. Form S-E.
 - C. Form S-M.
 - D. Form S-P.
- 2 56. Form J, K, and L orders apply to both tracks while form S-A, S-C, and S-E apply to _____ tracks.
- A. Double.
 - B. Secondary.
 - C. Single.
 - D. Superior.



REFERENCE TEXT

638

RAIL OPERATIONS, DISPATCHING

The information contained herein is provided for instructional purposes only. It reflects the current thought of this school and conforms to printed Department of the Army doctrine as closely as possible. Development and progress render such doctrine continuously subject to change.

U. S. ARMY TRANSPORTATION SCHOOL
Fort Eustis, Virginia

CONTENTS

	<u>Paragraph</u>	<u>Page</u>
INTRODUCTION.....		1
CHAPTER 1. PRINCIPLES.....	1.1	5
2. DOCUMENTS AND STAFF.....	2.1	24
3. COMMUNICATIONS.....	3.1	37
4. SUPERIORITY OF TRAINS.....	4.1	54
5. TRAIN ORDERS.....	5.1	70
APPENDIX I. REFERENCES.....		90
II. SAMPLE TIMETABLE FOR ELWOOD DIVISION.....		91
III. RAILWAY OPERATING RULES, EXTRACT FROM TM 55-200.....		101
IV. GLOSSARY.....		115
INDEX.....		117