

If the train detoured displays signals for following sections, all sections must be run via the detoured route.

PLACING TORPEDOES.

Trainmen, when placing torpedoes on track, especially in double-track territory, should place them on the engineer's side, or on the right-hand rail in the direction of traffic. This will avoid any possible confusion in case torpedo is exploded when two trains are passing each other.

ANNOUNCING TRAINS IN STATIONS.

Conductors should announce their trains at North Adams, Greenfield, Fitchburg and Keene stations before leaving.

TELEPHONES. DISPATCHER'S CIRCUIT.

UNION MARKET.

Telephone located in box outside station.

BALDWINVILLE.

Telephone set on train dispatcher's circuit located opposite middle crossovers, automatically cuts in when door is opened, and ready for service.

All the above telephones are locked with switch key. Train and engine-men should use these telephones promptly when meeting with delays or accidents at or near these points. Telephone Box must always be left locked.

LUNENBURG.

Telephone set train dispatcher's circuit located in box on station.

East Gardner, on pole opposite crossovers.

Lake Pleasant, on pole opposite station.

AYER.

A telephone at West Main Street Crossing, Ayer, call, four long and two short.

List of all telephone calls including Diamond and Ball Target in box.

SOUTH ACTON.

Yard telephone has been extended to crossing tender's shanty on Martin Street. Call for Freight House, one short ring. Station, two short rings. Tower, three short rings. Martin Street, four short rings.

SPECIAL STATION AND JUNCTION RULES.

SHIRLEY.

(a) When trains are set off on siding at Shirley, the locomotive must clear within 300 feet of the crossing, in order that the view may be as much unobstructed as possible, in accordance with the agreement made with the town of Shirley. A post has been erected to mark the exact spot.

SOUTH ASHBURNHAM.

(b) All eastbound trains will come to a full stop before fouling the crossovers east of depot at South Ashburnham and will not proceed until it is known that switches are clear and set for their route.

WESTMINSTER.

All eastbound freight trains will stop at Westminster for inspection of train and will clear east end of middle switch, instead of pulling by station where westbound trains interfere with inspection.

LITTLETON.

(c) **CONNECTING SWITCH STANDS.**—These two switches will be equipped with standard switch stands and pipe line will be so arranged that main line switch normal will lock middle siding normal so that it will be necessary in making move, to throw the main line switch which will unlock the middle siding switch.

On the reverse move it will be necessary to throw middle siding switch before main-line switch can be straightened up.

WATERTOWN.

(d) The electric banner signal on the eastbound track, west of the first overhead bridge, west of the Watertown station, is connected with the gates at Church Street crossing, at the west end of the Watertown station, for the purpose of showing the position of the gates, and will be observed in accordance with the following rules:

When this signal is at safety it indicates that the gates are down across the street, and enginemen will omit the sounding of the whistle.

When this signal is at Caution it indicates that the gates are up.

(e) **Lincoln.**—Westbound freight trains will take water at easterly waterspout, and will cut off engine, leaving cars standing east of the crossing so as to avoid blocking the crossing while taking water.

Agent will report any violations of this rule.

(f) **Concord Junction.**—All trains having work to do will cut off from their train while standing outside Home Signal and not foul it.

Towermen will report any violations of this rule.

(g) **Concord.**—A banner signal located to the right of the outward track about 1000 feet east of Concord station.

AYER.

(h) All eastbound freight trains stopping for water must leave their train clear of the crossovers from west wye leading to the main line. All westbound freight trains, except second-class trains, taking water at Ayer must leave their trains to clear the crossovers leading from the Southern Division yard to W., N. & P. Division that traffic may not be interfered with from and to Ayer yard.

(i) Three arm semi-automatic block and routing signal at Ayer, located to the right of the inward tracks, about 400 feet east of the diamond. Upper arm will govern movements on the inward tracks; the middle arm will act as a distant signal for automatic block signal No. 354, and the lower arm will govern movements to the Southern Division track.

When "STOP" is indicated by these signals, trains or engines must not proceed on hand signals until a flagman has been sent ahead. They may then proceed on signal from the flagman.

SQUANNACOOK JCT.

Switch at Squannacook Jct. must be left for Milford Branch.

EASTBOUND TRAINS TAKING HELPERS AT ATHOL.

Eastbound trains requiring helpers will stop engine opposite B. & A. engine house, Athol, and take helper engine on at that point, unless it is necessary to proceed immediately to passing siding to clear first-class trains, as per Rule 86.

ATHOL.

(j) Engineers will approach Athol with train under full control, expecting to find Boston & Albany trains receiving and discharging passengers.

ROYALSTON.

(k) Westbound freight trains must approach East and West end of Royalston passing siding under full control, expecting to find pusher engine crossing over through the middle siding or crossover. (See Special Rule 4.)

Movement of Athol helping engines at Royalston: The fireman will throw the westbound main-line switch only and will remain at the switch until his engine has crossed over on to westbound track. The train crew will handle the eastbound main line and middle switches for the crossover movement, also properly adjust the mechanical signal and middle switch after helping engine has crossed to westbound track.

EAST DEERFIELD AND GREENFIELD.

(n) East Deerfield and Greenfield Yard Limits adjoin, therefore light engines, switchers, and any extra movements can be made without "running" train orders, and extra trains including light engines, may run ahead of second-class trains between East Deerfield and Greenfield, but such extra trains or light engines must not delay second-class trains unnecessarily and will be governed by Rule 93. For the protection of yardmen at East Deerfield, engineers of all westbound trains will sound the regular station whistle when passing east end crossovers.

CHANGING ENGINES AT EAST DEERFIELD.

Great care should be used at East Deerfield while changing engines on passenger trains, and engines must not pass passenger trains while shift of engines is being made.

INFERIOR CLASS TRAIN CLEARANCES.

WESTWARD.

(a) With the exception of second-class trains, all freights must clear first-class trains 15 minutes at East Fitchburg and must clear such trains 15 minutes at East Deerfield.

At other points, inferior trains will be governed as per Rule 86.

SPECIAL INSPECTION OF FREIGHT TRAINS.

All eastbound freight trains will stop at South Ashburnham, where trainmen will look over train the entire length before starting; middle man will be in position at head end to make a running inspection after train starts; engineman to hold train with engine brake to allow middle man to board caboose. Enginemen will then be given signal from the rear, which will be answered by two short whistles.

TRAINMEN ON FREIGHTS MUST BE ON TOP OF TRAIN.

Greenfield to East Deerfield, both directions.

Approaching Gardner, both directions.

Approaching South Ashburnham, both directions.

East Gardner to East Fitchburg, eastward.

Approaching Ayer, both directions, South Acton, Concord Junction, Waltham and West Cambridge.

Some member of crew should be on the platform of cabooses passing telegraph stations for the purpose of taking signals or telegrams from operators or others.

AIR COUPLED UP FOR YARD MOVEMENTS.

When switchers handle cars between the points mentioned below, work should not be done without having air coupled up, and at least 85% air brakes working:

East Deerfield and Greenfield.
Gardner and Heywood.
Fitchburg and East Fitchburg (either via main track or third track).
West Cambridge and Charlestown.

INFERIOR CLASS TRAIN CLEARANCE.

EASTWARD.

17. Eastbound freights, except Nos. 218, 220 and 216, will not pass West Deerfield Middle unless they can clear first-class trains at Greenfield 15 minutes.

CHESHIRE BRANCH. WINCHENDON.

23. (a) All trains moving east from Peterboro Branch must stop west of switch leading to Cheshire Branch main track, west of station, and not proceed until way is known to be clear.

(b) When trains have orders to meet at Winchendon it will be understood they are to meet at siding west of Ware River bridge. When necessary to avoid delay, westbound trains will back in on turnout known as Spring crossing, east of Ware River bridge. When necessary for eastbound trains to set off at Spring crossing, they will send out a flagman as per Rule No. 99.

Westbound trains will approach Spring crossing under control.

KEENE.

24. No train or engine shall be backed over Main Street in Keene without keeping a man in a suitable position at the rear, or in advance of the rear end of the train or engine, to give any needed warning. No two trains or engines shall pass over said street at the same time.

BELLOWS FALLS.

25. Regular freight trains must not leave Bellows Falls without running orders.

Rutland Railroad trains or engines will not go on tracks on stone arch bridge over the Connecticut River from the west without first sounding the whistle. Fitchburg Division trains or engines, before using the tracks from the east, will also give notice to Rutland Railroad train or yard men in the same manner, it being also understood and required that the engines or trains of both roads must be moved at such a rate of speed upon or in approaching this bridge that they can be stopped instantly if any obstruction is found or if trains or engines are approaching in the opposite direction.

TURNERS FALLS BRANCH.

26. All trains when passing to and from main line and branch must protect themselves. The use of this branch by trains other than those scheduled must be given by train order.

TURNERS FALLS.

27. Conductors of branch trains leaving Turners Falls will ascertain from the agent whether all trains due have passed Turners Falls Junction.

MARLBORO BRANCH.

HUDSON, MASS.—All trains or engines will stop and flag themselves over grade crossing at Washington Street when there is no crossing tender on duty. Regular hours for crossing tender, 7.00 A.M. to 8.35 P.M. (7.30 A.M. to 6.40 P.M. Sundays).

MARLBORO—All trains and engines will stop and flag over crossing at Prospect Street and Lincoln Street.

BALL SIGNALS.

MAIN LINE.

AYER.

28. (a) A ball signal is located near switch house on north side of westbound main track east of station and governs as follows:

Absence of balls or lights: westbound trains on Fitchburg Division main track must stop before passing the stop post located 700 feet east of the signal. Greenville Branch trains must stop to clear the Southern Division track.

One ball or one red light: trains on the Southern Division may enter or leave the station.

One ball or one red light: trains on the Fitchburg Division westbound main track may enter the station.

Two balls or two red lights: Fitchburg Division westbound trains may enter the station via the Greenville Branch track.

Four balls or four red lights: Fitchburg Division eastbound trains may leave the station via Greenville Branch track.

Three balls or three red lights: trains may pass from Worcester, Nashua & Portland Division or from Southern Division into the freight yard, crossing both of the Fitchburg Division main tracks; and trains on either the westbound or eastbound main track of the Fitchburg Division must not approach within fifty feet of the crossover.

CHESHIRE BRANCH. WINCHENDON.

31. A ball signal east of the station governs as follows:
One ball or one red light: Fitchburg Division trains cross.
Two balls or two red lights: Worcester, Nashua & Portland Division trains cross.
Three balls or three red lights: Boston & Albany Railroad trains cross.
The normal position of ball signal and switches, when not otherwise in use, must be Fitchburg Division.

BELLOWS FALLS.

32. A ball signal just west of Connecticut & Passumpsic Division governs as follows:

One ball or one red light allows Rutland Railroad trains to pass.

Two balls or two red lights allow Fitchburg Division trains to pass.

Three balls or three red lights allow Connecticut & Passumpsic Division trains to pass.

INTERLOCKING SIGNALS.

(SEE INTERLOCKING SIGNAL RULES)

MAIN LINE.

OUTBOUND Read Down.	LOCATION.	INBOUND. Read Up.
Distant, f-19 Home, two arms	Washington Street Jct.	Home, L-24 Distant, L-30 Track 4 Home, E-24 Distant, E-30 Track 2
Track 1 Distant Home, three arms Track 3 Distant Home, three arms	West Cambridge	Home, two arms Track 4 Home, two arms Distant Track 2
Distant, Block 95 Home, two arms Home Home	Waltham	Home, two arms Home, two arms Home Track 4 Home, two arms Home, two arms Home Distant, Block E-102 Track 2
Distant Home	Concord Junction	Home Distant
Distant Home Home, two arms	South Acton	Home, two arms Distant
Distant, Block 355 #Home, 3 arms	Ayer	Home, 2 arms #Home, 3 arms Home, 2 arms Distant, Block 370
Greenville Branch #Home, 3 arms		Greenville Branch #Home, 3 arms
Distant, Block 485 *Home Home(not interlocked)	Fitchburg	Home Track 4 Home, two arms Track 2 Home (not interlocked) Distant
Distant, Block 641 #Home, three arms #Home, three arms	Gardner	#Home, three arms #Home, three arms Distant, Block 652
Distant Distant, Block 703 Home	Baldwinville	Distant Distant Home Distant

(F. Div.)

WATERTOWN BRANCH.

OUTBOUND. Read Down.	LOCATION.	INBOUND. Read Up.
	West Cambridge.	Home, three arms Distant
Distant Home, two arms Home, two arms	Waltham	Home, two arms Y Track Home, two arms Home, two arms

MARLBORO BRANCH.

OUTBOUND. Read Down.	LOCATION.	INBOUND. Read Up.
Home, two arms	South Acton	Home, two arms *Home Home

* Engines or trains occupying the long siding or engine-house track must keep into clearance until the home signal is set for them to proceed and the rear home signal set to indicate stop to protect them in the rear.

Lower blade, calling on arm.

MECHANICAL SWITCH AND YARD SEMAPHORE SIGNALS.

When Stop is indicated by these signals, trains or engines must not proceed on hand signals, until a flagman has been sent ahead and ascertained the full situation. They may then proceed on signal from the flagman.

OUTBOUND. Read Down.	LOCATION.	INBOUND. Read Up.
Home	Hill Crossing	Home
Home	Union Market	
Distant, Block 113 Home	Roberts	Home Distant Distant, Block 120
Home	West Acton	Home
Home, two arms Home	East Fitchburg	Home Home, two arms Track 4 Home, two arms Distant, Block 482 Track 2
Home	South Ashburnham	
Home	Royalston	Home
Home(not interlocked)	Athol	
Home	Millers Falls	Home
Distant, Block 1029 Home Home, two arms Distant, Block 1033 Home, two arms Home, "From Yard"	East Deerfield	Home Distant, Block 1032 Home, C. & P. Con- nection Home, two arms Distant
Home	Turners Falls Junction	
Home Home	Greenfield	Home Home Home

MARLBORO BRANCH

OUTBOUND. Read Down.	LOCATION.	INBOUND. Read Up.
Home	C. M. Junction	Home, two arms

CHESHIRE BRANCH.

OUTBOUND. Read Down.	LOCATION.	INBOUND. Read Up.
Home(not interlocked)	Bellows Falls	
	South Ashburnham	Home (not inter- locked)

AUTOMATIC ELECTRIC SEMAPHORE BLOCK SIGNALS. 19

SIGNAL NUMBER OUTWARD		BETWEEN STATIONS	SIGNAL NUMBER INWARD	
TRACK 3	TRACK 1		TRACK 2	TRACK 4
		Terminal Division and Union Square and Somerville and Cambridge and West Cambridge and Hill Crossing and Belmont and Waverley and Clematis Brook and Beaver Brook and Waltham and Riverview and Roberts	20 E-24 E-30 E-36 E-42 50 \$58 68 74 82 90 96 E-102 E-108	L-24 L-30 L-36 L-42
L-25	E-25			
L-31	E-31			
L-37	E-37			
	\$45			
	51			
	57			
	65			
	71			
	79			
	87			
	95			
	E-101			
L-101	107			
L-103	\$113			
L-109				

SIGNAL No. OUT- WARD	BETWEEN STATIONS	SIGNAL No. INWARD	SIGNAL No. OUT- WARD	BETWEEN STATIONS	SIGNAL No. INWARD
W-45	West Cambridge and Fresh Pond and	W-50	221	Concord Junction	228
W-53	Mt. Auburn and		229	and	236
W-61	East Watertown and	W-60	237	South Acton	244
W-67	Union Market and	W-68	245	and	250
W-77	Watertown and	W-78	251	West Acton	258
W-85	West Watertown and	W-86	259	and	266
W-95	Bemis and	W-94	269	Boxboro	272
W-103	Bleachery and	W-104	277	and	280
	Newton Street and	W-106	285	and	288
	Waltham		293	Boxboro	296
	Roberts		301	and	304
117	and		311	Littleton	312
125	Stony Brook and		319	and	318
133	Kendal Green and		327	and	326
141	Hastings and		339	Ayer Junction	336
149	Silver Hill		347	and	346
155	and		\$355	and	354
165	Lincoln and		363	and	\$370
171	Bakers Bridge		371	and	378
179	and		379	and	386
187	Concord		387	Shirley	392
195	and		393	and	400
203	and		401	and	410
209	Concord Junction		411	Lunenburg	418
			419	and	428
			150	and	436
			160	and	444
			166	North Leominster	452
			174	and	460
			182	and	466
			188	and	474
			196	and	\$482
			479	Fitchburg	490
			204		
			\$485		
			210		
			\$493		
			218		

SIGNAL No. OUTWARD	BETWEEN STATIONS	SIGNAL No. INWARD	SIGNAL No. OUTWARD	BETWEEN STATIONS	SIGNAL No. INWARD
497	Fitchburg	504	761	Royalston	762
505	and	512	771		772
513			779		782
521	West Fitchburg	522	789	and	788
529	and	530	799		798
	Wachusett		805		806
537	and	538	811		812
545		546	821	Athol	822
	Westminster		829		832
			837	and	838
553		556	847		846
563		566	857		854
571	and	576		Orange	864
579		586	865		868
589		594	871	and	878
# 595			881		886
	South Ashburnham		889		
S-601	and	602		Wendell	896
605		610	897	and	904
613		616	905		912
	East Gardner			Erving	
		624	915		922
623		630	923	and	932
629	and	636	933		
635		644		Farley	938
\$ 641			941		948
	Gardner		949	and	956
649		\$ 652	959		964
655		658	\$ 967		972
661	and	664		Millers Falls	
671		674	975	and	\$ 982
679		682	983		988
	Otter River			Lake Pleasant	
689	and	688	993	and	998
695		696	1001		
\$ 703		704		Montague	1008
	Baldwinville		1009	and	1018
711		712	1019		1024
719		722	\$ 1029		
729	and	732		East Deerfield	\$ 1032
737		738	\$ 1033		1036
745		746	1037	and	1042
755		756	1043		1048
	Royalston		1049		1056
			1053	Greenfield	

○ Outward.

□ Inward.

§ Automatic distant signal.

Automatic routing signal.

○ § The lower arm on automatic block signal No. 45 will act as a distant signal for outward mechanical signal at Hill Crossing, as well as automatic block No. 51.

□ § The lower arm on automatic block signal No. 58 will act as a distant signal for inward mechanical signal at Hill Crossing as well as automatic block signal No. 50.

○ § Lower blade on signal 113 will act as a cautionary signal for westbound yard signal at Roberts as well as automatic signal 117.

○ Outward.

□ Inward.

○* The lower arm of Automatic Signal 355 will act as distant signal for home signal at Ayer Diamond. Also Automatic Signal 363.

□* The lower arm of Automatic Signal 370 will act as distant signal for home signal at Ayer Diamond also three-arm automatic signal east of Ayer station.

□ § The lower arm of automatic block signal No. 482 will act as a cautionary signal for the upper main-line home signal as well as for automatic block signal No. 474.

○ § The lower arm of automatic block signal No. 485 will act as the westbound distant signal for Fitchburg tower.

□ Track circuit for signal C-608 ends at clearance point of main-line track.

○ § The lower blade on automatic block signal No. 493 will act as distant signal for westbound yard signal at Fitchburg Station as well as automatic block signal No. 497.

□ § The lower arm of automatic block signal No. 652 will act as a cautionary signal for the upper main-line home signals at Gardner as well as for auto block signal No. 644.

CHESHIRE BRANCH.

SIGNAL No. OUTWARD	BETWEEN STATIONS	SIGNAL No. INWARD	SIGNAL No. OUTWARD	BETWEEN STATIONS	SIGNAL No. INWARD
C-603	South Ashburnham	C-608	C-903	Joslin and Keene	C-908
C-619	and	C-624			
C-635		C-640	C-915		C-920
	Naukeag		C-931	and	C-936
C-649	and	C-654	C-949		C-954
C-665		C-668	C-965		C-968
	Winchendon			Summit and 10th Section and Gilboa	C-986
C-683	and	C-686	C-981		
C-699		C-704			
	State Line		C-997		C-1002
C-717		C-722			
C-733	and	C-738	C-1013		C-1018
C-751		C-756	C-1029	and	C-1034
	Fitzwilliam			Westmoreland	
C-769		C-772	C-1045		C-1050
C-781	and	C-786	C-1061	and	C-1066
C-797		C-802	C-1077		C-1082
C-807		C-812	C-1091		C-1096
	Troy			Walpole and Cold River	C-1114
C-819	and	C-824	C-1109		
C-833		C-838			
C-847		C-850	C-1129	and	C-1130
	Webb		C-1135		C-1136
C-859	and	C-864		Bellows Falls	
C-873		C-878			
C-885		C-892			
	Joslin				

○ # Lower blade on signal 595 governs movements on Cheshire Branch to a point 1,000 feet west of Mile Post 61.

○ § The lower arm of automatic block signal No. 641 will act as a cautionary signal for the upper main line home signals as well as for auto block signal No. 649.

□ § The lower arm of automatic block signal No. 1032 will act as a cautionary signal for the eastbound mechanical home signal at the east end of the yard as well as for automatic block signal No. 1028.

○ § The lower arm of automatic block signal No. 703 will act as a cautionary signal for the westbound main-line home signal as well as for automatic block signal No. 711.

○ § The lower arm of automatic block signal No. 967 will act as a cautionary signal for westbound main-line home signal, as well as for automatic block signal No. 975.

□ § The lower arm of automatic block signal No. 982 will act as a cautionary signal for eastbound main line home signal, as well as for automatic block signal No. 972.

○ § The lower arm of automatic block signal No. 1029 will act as a cautionary signal for the westbound mechanical home signals at the east end of the yard as well as for automatic block signal No. 1033.

○ § The lower arm of automatic block signal No. 1033 will act as a cautionary signal for the mechanical home signal at the west end of the yard as well as for automatic block signal No. 1037.

○ Track circuit for signal C-1135 ends near center of Connecticut River Bridge No. 434.

S Signal 601 cautionary for signal 605.

All hand derails on side tracks leading to the main line have been connected with the automatic block signals, so as to show a stop signal on the main line when the derail is closed.

Great care must be taken by switching and train crews to leave these hand derails open at all times when not in use to avoid stopping main-line trains.

MAXIMUM TONNAGE RATING FOR SINGLE LOCOMOTIVES

FITCHBURG AND BERKSHIRE DIVISIONS.

RATING CHANGE POINTS.	CLASS.												Trains will take additional tonnage, if offered at points between	
	105	100	85	80	70	65	60	50	45	40	35	30		
Boston to Fitchburg	1400	1350	1100	1040	890	850	775	650	590	525	460	390		
Fitchburg to East Deerfield	990	940	750	710	600	575	540	450	400	360	310	260	East Gardner	East Deerfield
East Deerfield to North Adams	1075	1025	825	775	660	640	590	490	440	390	340	290	East Portal	Buckland
North Adams to Rotterdam	1625	1575	1300	1225	1050	990	910	760	690	610	540	460	Crescent	Rotterdam
Rotterdam to Mechanicville	1950	1850	1600	1440	1250	1175	1075	900	810	725	625	540	Williamstown	Mechanicville
Mechanicville to North Adams	1700	1650	1385	1250	1075	1010	940	790	700	625	550	475		
Mechanicville to Saratoga Springs	950	910	750	710	600	575	515	430	387	344	300	258		
North Adams to East Deerfield	2050	2000	1700	1440	1150	1100								
East Deerfield to Athol	1350	1300	1025	960	840	790	725	610	550	490	425	360	Shelburne Falls	East Deerfield
Athol to Fitchburg	1140	1090	850	800	690	650	600	500	450	400	350	300	East Gardner	Fitchburg
Fitchburg to Boston	2150	2110	1750	1650	1425	1340	1240	1025	925	825	725	625	Lincoln	Boston
Fitchburg to Bellows Falls	990	940	750	710	600	575	540	450	400	360	310	260	Troy, N.H.	Keene
Bellows Falls to Fitchburg	990	940	750	710	600	575	540	450	400	360	310	260	Gilboa	Bellows Falls
Troy to Johnsonville	1250	1225	1000	940	810	760	700	590	525	475	410	350		
Johnsonville to Troy	2210	2160	1800	1690	1450	1375	1275	1060	950	850	740	640		
South Acton to Hudson	1225	1175	950	900	775	725	675	560	510	450	390	340		
Hudson to Marlboro, Mass.	650	610	475	450	390	360	340	275	250	225	200	170	Hudson	Maynard
Marlboro, Mass., to South Acton	1250	1210	990	925	800	750	700	575	525	460	400	350		
Ayer to Milford	1100	1050	850	800	690	650	600	500	450	400	350	300		
Milford to Ayer	1050	990	800	750	650	610	560	475	425	375	325	275	No. Brookline	Ayer

When, for any reason, engines assigned to freight trains are unable to handle assigned tonnage rating, conductor, after consultation with engineman, will reduce to tonnage that engine can handle.

In all cases when this is done a message signed by conductor and engineman will be sent to Dispatcher's Office stating where and why reduction was made, also number of cars and whether empty or loaded, and contents. Where double headers are run, an allowance of 5% on combined tonnage is made.

Engineman must report by wire at first convenient telegraph office, any engine failures en route.

TONNAGE RATING ELECTRIC ZONE.

ELECTRIC MOTORS (5000-5004, inclusive), 2000 TONS.

OR

Limit for one Motor, eastbound, 55 cars or 1785 tons, behind one Steam Locomotive.

Limit for one Motor, westbound, 60 cars or 1785 tons, behind one Steam Locomotive.

TONNAGE RATING CLASSIFICATION OF LOCOMOTIVES.

CLASS 105 — 2640 to 2734, inclusive.

CLASS 100 — 2600 to 2639, inclusive.

CLASS 85 — 2310 to 2429, inclusive.

CLASS 80 — 2900 to 2917, inclusive.

CLASS 70 — 4, 5, 6, 7, 8, 12, 13, 23, 27, 28, 1356 to 1499, inclusive, 2100 to 2129, inclusive, 3600 to 3689, inclusive.

CLASS 65 — 1324 to 1350, inclusive, 2000, 2012, 2013, 2020 to 2045, inclusive, 2051 to 2055, inclusive, 2070, 2071, 2074 to 2079, inclusive, 2301 to 2308, inclusive.

CLASS 60 — 9, 10, 11, 21, 29, 30, 1319, 1351 to 1355, inclusive, 1956 to 1984, inclusive, 2001 to 2005, inclusive, 2010, 2011, 2014, 2015, 2016, 2050, 2060 to 2064, inclusive, 3204 to 3239, inclusive.

CLASS 50 — 1131, 1133, 1136, 1141, 1143, 1144, 1315, 1165 to 1173, inclusive, 1945, 3200.

CLASS 45 — 2, 3, 25, 26, 950 to 1029, inclusive, 1100 to 1130, inclusive, 1132, 1134, 1135, 1137, 1140, 1142, 1150 to 1164, inclusive, 1311, 1901 to 1932, inclusive.

CLASS 40 — 40 to 44, inclusive, 812, 813, 815, 830, 831, 850, 853, 856, 858, 874 to 881, inclusive, 884 to 890, inclusive, 910 to 949, inclusive.

CLASS 35 — 810, 811, 814, 832 to 839, inclusive, 842, 843, 844, 846, 883, 900 to 909, inclusive.

CLASS 30 — 20, 662, 663, 670 to 699, inclusive, 724, 770 to 788, inclusive, 845, 860.

Under 30 — 620, 635.

TABLE SHOWING RATE OF SPEED REQUIRED PER MILE TO EQUAL A GIVEN NUMBER OF MILES PER HOUR.

TIME PER MILE	MILES PER HOUR	TIME PER MILE	MILES PER HOUR	TIME PER MILE	MILES PER HOUR	TIME PER MILE	MILES PER HOUR	TIME PER MILE	MILES PER HOUR	TIME PER MILE	MILES PER HOUR
1 min. 0 sec.	60.00	1 min. 31 sec.	39.56	2 min. 2 sec.	29.50	2 min. 33 sec.	23.53	3 min. 4 sec.	19.56	3 min. 35 sec.	16.74
1 " 1 "	59.02	1 " 32 "	39.13	2 " 3 "	29.27	2 " 34 "	23.38	3 " 5 "	19.46	3 " 36 "	16.66
1 " 2 "	58.06	1 " 33 "	38.71	2 " 4 "	29.03	2 " 35 "	23.23	3 " 6 "	19.35	3 " 37 "	16.59
1 " 3 "	57.14	1 " 34 "	38.29	2 " 5 "	28.80	2 " 36 "	23.08	3 " 7 "	19.25	3 " 38 "	16.52
1 " 4 "	56.25	1 " 35 "	37.89	2 " 6 "	28.57	2 " 37 "	22.93	3 " 8 "	19.15	3 " 39 "	16.45
1 " 5 "	55.38	1 " 36 "	37.50	2 " 7 "	28.34	2 " 38 "	22.78	3 " 9 "	19.05	3 " 40 "	16.36
1 " 6 "	54.55	1 " 37 "	37.11	2 " 8 "	28.12	2 " 39 "	22.64	3 " 10 "	18.95	3 " 41 "	16.29
1 " 7 "	53.73	1 " 38 "	36.73	2 " 9 "	27.91	2 " 40 "	22.50	3 " 11 "	18.85	3 " 42 "	16.22
1 " 8 "	52.94	1 " 39 "	36.36	2 " 10 "	27.69	2 " 41 "	22.36	3 " 12 "	18.75	3 " 43 "	16.14
1 " 9 "	52.17	1 " 40 "	36.00	2 " 11 "	27.48	2 " 42 "	22.22	3 " 13 "	18.65	3 " 44 "	16.07
1 " 10 "	51.43	1 " 41 "	35.64	2 " 12 "	27.27	2 " 43 "	22.08	3 " 14 "	18.55	3 " 45 "	16.00
1 " 11 "	50.70	1 " 42 "	35.29	2 " 13 "	27.09	2 " 44 "	21.95	3 " 15 "	18.46	3 " 46 "	15.93
1 " 12 "	50.00	1 " 43 "	34.95	2 " 14 "	26.87	2 " 45 "	21.82	3 " 16 "	18.37	3 " 47 "	15.86
1 " 13 "	49.31	1 " 44 "	34.61	2 " 15 "	26.67	2 " 46 "	21.69	3 " 17 "	18.28	3 " 48 "	15.79
1 " 14 "	48.65	1 " 45 "	34.29	2 " 16 "	26.47	2 " 47 "	21.56	3 " 18 "	18.18	3 " 49 "	15.72
1 " 15 "	48.00	1 " 46 "	33.96	2 " 17 "	26.28	2 " 48 "	21.43	3 " 19 "	18.09	3 " 50 "	15.65
1 " 16 "	47.37	1 " 47 "	33.64	2 " 18 "	26.09	2 " 49 "	21.30	3 " 20 "	18.00	3 " 51 "	15.58
1 " 17 "	46.74	1 " 48 "	33.33	2 " 19 "	25.90	2 " 50 "	21.17	3 " 21 "	17.91	3 " 52 "	15.51
1 " 18 "	46.15	1 " 49 "	33.03	2 " 20 "	25.71	2 " 51 "	21.05	3 " 22 "	17.82	3 " 53 "	15.45
1 " 19 "	45.57	1 " 50 "	32.73	2 " 21 "	25.53	2 " 52 "	20.93	3 " 23 "	17.73	3 " 54 "	15.38
1 " 20 "	45.00	1 " 51 "	32.43	2 " 22 "	25.35	2 " 53 "	20.81	3 " 24 "	17.64	3 " 55 "	15.32
1 " 21 "	44.44	1 " 52 "	32.14	2 " 23 "	25.17	2 " 54 "	20.69	3 " 25 "	17.56	3 " 56 "	15.25
1 " 22 "	43.90	1 " 53 "	31.86	2 " 24 "	25.00	2 " 55 "	20.57	3 " 26 "	17.48	3 " 57 "	15.19
1 " 23 "	43.37	1 " 54 "	31.58	2 " 25 "	24.83	2 " 56 "	20.45	3 " 27 "	17.39	3 " 58 "	15.12
1 " 24 "	42.86	1 " 55 "	31.30	2 " 26 "	24.66	2 " 57 "	20.34	3 " 28 "	17.31	3 " 59 "	15.06
1 " 25 "	42.35	1 " 56 "	31.03	2 " 27 "	24.49	2 " 58 "	20.22	3 " 29 "	17.22	4 " 0 "	15.00
1 " 26 "	41.86	1 " 57 "	30.77	2 " 28 "	24.32	2 " 59 "	20.11	3 " 30 "	17.14		
1 " 27 "	41.38	1 " 58 "	30.51	2 " 29 "	24.16	3 " 0 "	20.00	3 " 31 "	17.06		
1 " 28 "	40.91	1 " 59 "	30.25	2 " 30 "	24.00	3 " 1 "	19.89	3 " 32 "	16.98		
1 " 29 "	40.45	2 " 0 "	30.00	2 " 31 "	23.84	3 " 2 "	19.78	3 " 33 "	16.90		
1 " 30 "	40.00	2 " 1 "	29.75	2 " 32 "	23.68	3 " 3 "	19.67	3 " 34 "	16.82		

TONNAGE RATING CLASSIFICATION OF LOCOMOTIVES.

Class 100 - 100 to 125 inclusive. 100 to 125 inclusive. 100 to 125 inclusive.

Class 101 - 126 to 150 inclusive. 126 to 150 inclusive. 126 to 150 inclusive.

Class 102 - 151 to 200 inclusive. 151 to 200 inclusive. 151 to 200 inclusive.

Class 103 - 201 to 250 inclusive. 201 to 250 inclusive. 201 to 250 inclusive.

Class 104 - 251 to 300 inclusive. 251 to 300 inclusive. 251 to 300 inclusive.

Class 105 - 301 to 350 inclusive. 301 to 350 inclusive. 301 to 350 inclusive.

Class 106 - 351 to 400 inclusive. 351 to 400 inclusive. 351 to 400 inclusive.

Class 107 - 401 to 450 inclusive. 401 to 450 inclusive. 401 to 450 inclusive.

Class 108 - 451 to 500 inclusive. 451 to 500 inclusive. 451 to 500 inclusive.

Class 109 - 501 to 550 inclusive. 501 to 550 inclusive. 501 to 550 inclusive.

Class 110 - 551 to 600 inclusive. 551 to 600 inclusive. 551 to 600 inclusive.

Class 111 - 601 to 650 inclusive. 601 to 650 inclusive. 601 to 650 inclusive.

Class 112 - 651 to 700 inclusive. 651 to 700 inclusive. 651 to 700 inclusive.

Class 113 - 701 to 750 inclusive. 701 to 750 inclusive. 701 to 750 inclusive.

Class 114 - 751 to 800 inclusive. 751 to 800 inclusive. 751 to 800 inclusive.

Class 115 - 801 to 850 inclusive. 801 to 850 inclusive. 801 to 850 inclusive.

Class 116 - 851 to 900 inclusive. 851 to 900 inclusive. 851 to 900 inclusive.

Class 117 - 901 to 950 inclusive. 901 to 950 inclusive. 901 to 950 inclusive.

Class 118 - 951 to 1000 inclusive. 951 to 1000 inclusive. 951 to 1000 inclusive.

GENERAL INFORMATION.

ALL DIVISIONS.

HOURS OF SERVICE LAWS.

Attention is called to the Act approved March 4, 1907, entitled "An Act to Promote the Safety of Employes and Travelers upon Railroads by limiting the Hours of Service thereon," as follows:

TRAINMEN AND ENGINEMEN.

(1). No conductor, engineer, fireman or trainman shall remain on duty for a longer period than 16 hours in any 24-hour period.

(2). Whenever any such employe shall have been continuously on duty 16 hours, he shall be relieved and not required or permitted to again go on duty until he has had not less than 10 consecutive hours off duty.

(3). And no such employe who has been on duty 16 hours in the aggregate (total) in any 24-hour period shall be required or permitted to continue or again go on duty without having had at least 8 consecutive hours off duty.

NOTE: "Twenty-four hour period" begins at the time the employe goes on duty after having had at least eight (8) consecutive hours off duty.

An employe goes "on duty" at the time he begins to perform service or at which he is required to be in readiness to perform service, and goes "off duty" at the time he is relieved from service and from responsibility for performance of service.

PROVIDED:

(4). That the provisions of this Act shall not apply in any case of casualty, or unavoidable accident, or the act of God; nor where the delay was the result of a cause not known to the carrier or its officer or agent in charge of such employe at the time said employe left a terminal, and could not have been foreseen; PROVIDED FURTHER, that the provisions of this Act shall not apply to the crews of wrecking or relief trains.

(5). The following causes and others of like nature must not be regarded as "casualties," "unavoidable accidents," "Acts of God," or "causes which could not have been foreseen:"

Engines not steaming.	Drawheads pulled out.
Cleaning fires or ash pans.	Broken draft gear.
Injectors failing.	Burst air hose.
Engines slipping on sand.	Broken couplers or knuckles.
Hot boxes.	Broken train line.

(6). Delays to trains due to causes or conditions known to exist before such trains leave a terminal or relay point will not be accepted as excuses for extending the hours of service of crews beyond the prescribed time. The following will not be accepted as excuses:

Side-tracking to give superior trains the right of way.

When trains are delayed by trains ahead, which in turn have been delayed by any of the causes above given.

(7). In computing the hours of service, no delay caused by casualty, unforeseen or unavoidable accident, occurring within the first 14 hours of service, will be considered as a reason for exceeding the limit of hours of service as prescribed by law, unless such delay exceeds one hour.

(8). A casualty or unforeseen or unavoidable accident occurring after 14 hours on duty, shall be considered as a reason for exceeding the hours of service for the time, and the time only, of the delay as prescribed by the law.

(9). The above shall, in addition, apply to trains directly affected by accidents to other trains; but in such cases only the actual delay due solely to the period of actual obstruction shall be considered.

(10). It shall be the duty of dispatchers to tie up or call a train and engine crew off duty at any time after the expiration of 14 hours on duty, at a convenient place where the train and engine may be properly taken care of before the sixteen (16) hours have expired.

(11). They must make due allowance for the time such employes have been on duty before starting from their initial point and the time ordinarily consumed in securing release after arrival at a terminal.

(12). They must in directing the movement of a train at all times consider the efficiency of the locomotives or cars in train, characteristics of the road, weather conditions, tonnage of the train or run made in the earlier part of the trip, and all things which in their judgment might retard train movement.

(13). When the 16 hours of duty are not continuous, the period off duty must not be deducted unless the men have been notified in advance that they are released for a definite period. This must not be less than 2 hours.

(14). Should a train fail to make the expected run, the dispatcher must ascertain the cause, and if delayed by a "casualty," "unavoidable accident," "Act of God," or "any occurrence which could not have been foreseen and guarded against," the crew may continue on duty as intended to the next relay point or terminal; otherwise the crew must be relieved before the expiration of 16 hours on duty.

(15). When a train crew has been on duty 14 hours, the conductor and engineer must wire the Superintendent to that effect. If no instructions are received and it is apparent that the trip cannot be completed within the 16 hours, the conductor and engineer must side-track their train and relieve the entire crew from duty before the 16 hours have expired, making the necessary arrangements for the protection of their train, and care of the engine.

(16). They are authorized to call upon any employe who may be qualified to care for the engine until other arrangements can be made. If no such other qualified employe can be found, either the engineer or the fireman must remain in charge of the engine.

(17). Agents, yardmasters, baggagemasters, pumpmen and other employes must co-operate with train crews to insure their being relieved within the 16 hours, and to avoid violations of the Hours of Service Law.

(18). Agents, yardmasters and engine-house foremen will be held individually and personally responsible for carrying out instructions in regard to relieving crews inside the time limit, and when trainmen and enginemen find themselves on short time on arrival at any station or yard, they must immediately take action or obtain proper relief in order to avoid violation of the law.

(19). When instructions cannot be obtained on account of no open telegraph offices, wires down, or other such causes, conductors and enginemen must reduce train load, or take such action as is necessary to insure reaching a terminal or relay point and obtaining relief before having been on duty 16 hours.

(20). Employes deadheading on passenger trains or on freight trains, and not required to perform, or held responsible for the performance of, any service or duty in connection with the movement of the train upon which they are deadheading, are not "on duty" as that term is used in the law regulating the hours of labor of such employes, while so deadheading.

(21). Should the crew of any train be on duty more than 16 hours in a 24-hour period, special report, Form 5598, must be made out and signed personally by the conductor and engineman, and sent in with the conductor's time slip to Superintendent's office to be checked up and forwarded to the General Superintendent's office.

A supply of the above form may be obtained on application to the Superintendent.

(22). A crew relieved on account of the 16-hour law must indicate on time slips the time relieved, where and by whom, and on what train deadheaded to terminal.

A crew when put on rest at other than home terminal must indicate on time slip the time relieved for rest and the time they report back for duty.

TRAIN DISPATCHERS AND OPERATORS.

(23). No operator, train dispatcher, or other employe who by the use of the telegraph or telephone, dispatches, reports, transmits, receives, or delivers orders pertaining to or affecting train movements, shall be required or permitted to be or remain on duty for a longer period than: First, 9 hours in any 24-hour period in all towers, offices, places and stations continuously operated night and day. Second, 13 hours in any 24-hour period in all towers, offices, places and stations operated only during the day time, except in case of emergency, when the employes named in this proviso may be permitted to be and remain on duty for 4 additional hours in a 24-hour period on not exceeding three days in any week. Any tower, office or station will be considered continuously operated night and day if such place is open as a telegraph office more than 13 hours during any 24-hour period, regardless of time it opens and time it closes. Any tower, office or station will be considered operated only during the day time if such place is open as a telegraph office not to exceed 13 hours during any 24-hour period regardless of time it opens and time it closes.

(24). These provisions apply to employes in towers, offices, places and stations, and do not include train employes who, by the terms of the law, are permitted to be or remain on duty 16 hours consecutively or 16 hours in the aggregate in any 24 hour period, and who may occasionally use telegraph or telephone instruments for the receipt or transmission of orders affecting the movement of trains.

(25). No operator employed in any office, operated continuously night and day must be allowed to do any work for the railroad in any capacity after nine (9) hours on duty have expired; and no operator employed in other offices must be allowed to do any work for the railroad in any capacity after thirteen (13) hours on duty have expired, until after the required hours of rest.

(26). The phrase, "towers, offices, places and stations," is interpreted to mean particular and definite locations. The purpose of the law and of the proviso for 9 hours of service may not be avoided by erecting offices, stations, depots, or buildings in close proximity to each other and operating from one a part of the day while the other is closed, and vice versa.

(27). The operator's duty need not be continuous but he must not be considered off duty unless there has been an interruption of at least one hour.

(28). The Act provides that operators employed at night and day stations or at daytime stations may, in case of emergency, be required to work 4 additional hours on not, exceeding three days in any week. Manifestly the emergency must be real.

(29). The service of operators is limited to an aggregate of nine (9) hours or thirteen (13) hours, as the case may be, in any 24-hour period. Therefore, an operator who has performed the full duty permitted by the law must not return to any work for the railroad until the balance of the 24-hour period has expired.

(30). If an employe receives instructions which will require him to exceed the hours of service permitted by the statute, or to report for duty without the period of rest required by the law, he must immediately call that fact to the attention of the person who has given the instructions.

EXPLOSIVES AND DANGEROUS ARTICLES.

RULES.

1301. Serious violations of the regulations and fires or accidents occurring in connection with the transportation or storage of dangerous articles on railway property, must be reported promptly to the proper official.

1687. (a) If shipments of explosives are accepted at non-agency stations, provision must be made for the proper certification and placarding of cars, examination of shipments, and loading and staying of packages in cars.

(b) Shipments of explosives must not be unloaded at non-agency stations unless the consignee is there to receive them, or unless proper storage facilities are provided at that point for their protection.

The following named explosives and other dangerous articles must not be transported through the Hoosac Tunnel: Low Explosives, Black Powder, High Explosives, Wet Fulminate of Mercury, Blasting Caps, Electric Blasting Caps (excepting a shipment of not more than 1000 blasting caps or 1000 electric blasting caps), Ammunition for cannon with Explosive Projectiles, Explosive Projectiles, Detonating Fusees, or Explosive torpedoes.

CARS PLACARDED "EXPLOSIVE."

1. This car must not be placed in a passenger train nor in a mixed train if avoidable.*

2. Cars containing explosives must be near center of train and may be together if desired; must be at least 15 cars from engine and 10 cars from caboose when length of train will permit.

3. Cars containing explosives must not be placed next to cars bearing the inflammable or the acid placard, or cars containing lighted heaters. Whenever it is possible to avoid so doing they must not be placed next to tank cars or flat cars or next to carloads of lumber, poles, iron, pipe or other articles liable to break through end of car from rough handling.

4. The air and hand brakes on this car must be in service.

5. In shifting have a car between this car and engine whenever possible, and do not cut this car off while in motion.

6. Avoid all shocks to this car and couple carefully.

7. Avoid placing it near a possible source of fire.

8. Engines on parallel track must not be allowed to stand opposite or near this car when it can be avoided.

9. Placards must be removed from cars when the explosives are unloaded.

CARS PLACARDED "INFLAMMABLE."

1891. (a) A box car placarded "INFLAMMABLE," or known to contain inflammable liquids must not be entered with a lighted lantern, torch, or other fire until both car doors have been opened and sufficient time allowed for ventilation and escape of any vapors. The presence of these vapors will generally be indicated by characteristic odors. When leakage is continuous, ventilation will not remove the danger. The leaking package should be located and removed, using electric lights or waiting for daylight.

1903. When the lading requiring the placard is moved from cars, placards must be removed, except that "INFLAMMABLE" placards must remain on tank cars moved as "empty" until such cars are known to have been properly cleaned with steam or reloaded with a substance that does not require the "INFLAMMABLE" placard.

* Must not be hauled in any train carrying passengers for hire in Massachusetts or Canada.

1904. A carrier must not move from a station yard or siding a car known to require placards until the proper placards are attached. Placards lost in transit must be replaced by the carrier.

1905. (a) Tank cars placarded "INFLAMMABLE" must be placed in trains, if possible, at least five cars from the engine and five cars from the caboose, but must not be placed next to a car placarded "Explosives." When length of train does not permit this, they must be placed as near the middle of the train as practicable; and in all cases carriers must see that their train crews are informed of the presence and location of such cars in the train.

Special care must be taken to avoid rough treatment and unnecessary switching of placarded tank cars.

(b) The carrier must see that its representative in charge of a freight train makes a thorough check of the cars bearing inflammable, acid, or explosive placards, with the billing, to see that all placards required are attached and those not required are removed.

1906. When cars protected by "INFLAMMABLE" placards are received or held in yards, particularly at night, the carrier must see that all necessary precautions are taken to prevent accidents. These precautions must include provision for quickly isolating them in case of fire.

1907. In classification yards, and in switching, it must be determined by inspection and trial that such a car has its brakes in first-class order before a draft containing it is cut; and a tank car placarded "INFLAMMABLE" must not be started down a ladder track, incline, or hump until the preceding car has cleared the ladder. It also must clear the ladder before another car is allowed to follow.

IN CASE OF A WRECK.

1697. In case of a wreck involving a car containing explosives, the first and most important precaution is to prevent fire. Before beginning to clear a wreck in which a car containing explosives is involved, all unbroken packages should be removed to a place of safety and as much of the broken packages as possible gathered up and likewise removed, and the rest saturated with water. Many explosives are readily fired by a blow or by the spark produced when two pieces of metal or a piece of metal and a stone come violently together. In clearing a wreck, therefore, care must be taken not to strike fire with tools, and in using the crane or locomotive to tear the wreckage in pieces the possibility of producing sparks must be considered. With most explosives thorough wetting with water practically removes all danger of explosion by spark or blow; but with the dynamites wetting does not make them safe from blows. With all explosives mixing with wet earth renders them safer from either fire, spark, or blow. In case fulminate has been scattered by a wreck, after the wreck has been cleared the wet surface of the ground should be removed, and after saturating the area with oil, be replaced by fresh earth. If this is not done, when the ground and fulminate become dry small explosions may occur when the mixed material is trodden on or struck.

1946. In case of a wreck involving a car containing inflammable freight, it should be assumed that packages are broken and that leakage has occurred which may cause fire if lighted lanterns or other flames are taken into or near these cars. As much of the train as possible should be moved to a place of safety. A car containing inflammable freight should be opened for ventilation and packages protected by red labels, and cylinders of compressed gases should be removed to a safe place. Substances spilled from broken packages protected by yellow label should also be carefully removed. Cylinders of compressed gases may be exploded if they are exposed to fire or struck a sharp blow, and the flying fragments would then be dangerous. Inflammable liquids spilled from broken packages or tank cars should be well covered with dry earth before a lighted lantern, torch, or an engine is used in the vicinity. Acids spilled in cars should be covered with dry earth and the car floor should be thoroughly swept.

1957. An empty or partially empty tank car, with or without placards, is very liable to contain explosive gases, and lights must not be brought near it.

For paragraph references, see Boston and Maine R.R. General Superintendent's Order No. 827 covering Interstate Commerce Commission's regulations for the transportation of explosives and other dangerous articles.

F. H. FLYNN,
Superintendent.

R. A. MURRAY,
Trainmaster, Greenfield.

G. H. KIDDER,
Trainmaster, Boston.

E. C. GOODNOW,
Trainmaster, Fitchburg.

A. I. WOOD,
Chief Train Dispatcher.

G. L. HALL,
Asst. Chief Train Dispatcher.

H. W. SHORT,
Asst. Chief Train Dispatcher.

C. F. WHERREN,
Pass. Trainmaster, Boston.
(F. Div.)

