

**RATING OF ENGINES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of engine and tender, which the different classes of engines will haul in each direction between stations named, under favorable weather conditions. A deduction of ten per cent may be made for time freight trains. Between stations for which no rating is shown maximum will apply.

TYPE OF ENGINE	NUMBERS (Inclusive)	PORTLAND AND SEATTLE										
		WESTWARD					EASTWARD					
		Albina to Vader	Vader to Winlock	Winlock to Napavine	Napavine to Centralia	Centralia to Argo	Argo to Centralia	Centralia to Napavine	Napavine to Albina			
P 77	22 — 28	143S 133S 140S	2900	1190	1085	2065	2125	2125	875	2065		
T 60	22 — 28	159 101S	2460	1480	1155	2970	2375	2375	975	2970		
T 63	22 — 28	160 162S	2690	1560	1265	3255	2600	2600	1070	3255		
P 77	25 — 28	167S	2845	1550	1340	3440	2745	2745	1180	3440		
C 57	22 — 30	187 190S	3185	1860	1500	3850	3080	3080	1265	3850		
MK 57	23 1/4 — 30	207SDB	3710	2175	1965	4500	3585	3585	1650	4950		
MK 57	23 1/4 — 30	207SDB	4530	2670	2415	5320	4385	4385	2035	6050		
TTT 63	29 1/2 — 30	209SDB 301SDB	6005	3535	2975	7320	5815	5815	2690	8025		
MT 73	29 — 28	230S	3920	2290	1900	4980	3920	3920	1610	4985		

  

TYPE OF ENGINE	NUMBERS (Inclusive)	CENTRALIA AND HOQUIAM				CENTRALIA AND TONO	COSMOPOLIS AND PRIMO	CHAMBERS PRAIRIE AND OLYMPIA		
		EASTWARD		WESTWARD						
		Hoquiam to Cosmopolis	Cosmopolis to Centralia	Centralia to Cosmopolis	Cosmopolis to Hoquiam					
T 63	20 — 24	113	1715 to 1726	695	1930	2245	695	1340	660	800
T 57	20 — 26	119	1733 to 1736	740	2375	2705	855	1630	810	980
T 64	15 1/2 — 26	145	1730 to 1731	710	2275	2560	820	1590	775	885
T 57	20 — 26	125	1737 to 1741	710	2505	2920	905	1720	855	980
T 69	22 — 28	159 161	1742 to 1754	1020	2840	3310	1570	1865	970	1170
T 63	22 — 28	162S	1755 to 1760	1120	3110	3625	1650	1975	1060	1280
C 57	20 1/4 — 30	167	1710, 715, 718, 724, 719 to 723	1490	2875	3355	1490	2200	985	1175
C 57	22 — 30	172	725 to 729	1325	3880	4290	1700	2520	1275	1515
C 57	22 — 30	190S	730 to 768	1515	4490	4980	1960	1455	1800	
MK 57	23 1/4 — 30	207S	2100 to 2102, 2104 to 2137, 2139 to 2146, 2148, 2150, 2153, 2155 to 2165	1870	5465	6050	2405			
MK 57	23 1/4 — 30	207SDB	2103, 2138, 2147, 2149, 2151, 2152, 2154							

**EXPLANATION**  
 "P" Pacific  
 "T" Ten Wheel  
 "C" Consolidation  
 "MK" Mikado  
 "TTT" Two-Ten-Two  
 "MC" Mallet Compound  
 "MT" Mountain  
**EXAMPLE:** Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:  
 C 57 — 22 — 30 — 187

**UNION PACIFIC SYSTEM**  
 OREGON-WASHINGTON RAILROAD &  
 NAVIGATION COMPANY

**Oregon Division**  
**Special Rules**  
**No. 2**  
**Effective Monday,**  
**April 1, 1935**

Superseding Special Rules No. 1

Employees whose duties are in any way affected thereby, must have a copy of these rules with them while on duty.

**H. A. CONNETT, Superintendent**  
**F. N. FINCH, General Manager**  
**G. L. WHIPPLE, General Supt. Transportation**

4 (B). Rule 4 (A) of the "Rules and Instructions of the Transportation Department" is changed as follows:

"From 24 hours prior to, and for six days after a new time-table takes effect, train dispatchers must deliver to all conductors and enginemen, and at all times to conductors and enginemen of other railroads, newly employed or promoted men, and to men from other subdivisions, a '19' train order reading, 'Acceptance of this order is acknowledgment of receipt of time-table No. . . . . taking effect. . . . . M

7 (B). At points where there are close clearances, trainmen will work on the opposite side of train from them; and, if necessary, the fireman will receive the signals and communicate them to the engineman.

8 (A). Electric lanterns may be used for displaying white light only. Their use for displaying colored lights for signaling purposes is not permitted.

9 (R). Switch lights will not be used on following branch lines:

- Joseph Branch;
- Primo Harbor Branch;
- Pilot Rock Branch;
- Heppner Branch;
- Condon Branch;
- Shaniko Branch;
- Bend Branch, between Ainsworth and North Jet.

Trains and engines must approach facing point switches on these branches prepared to stop if switch is not in normal position.

9 (S). Lights will not be kept burning at night in train order signals on branch lines when operators are not on duty, and trains will be governed by the day indication.

10 (h). At night, a yellow light on a dwarf signal, on a "call-on" signal, or on a "short-arm" signal of an interlocking plant, indicates "proceed at slow speed".

10 (j). Rule 10 (i) is hereby amended as follows:

Color	Stop. (Night indication for derail switches on sidings.)	Indication
Purple.		

10 (k). That part of Rule 10 (g) of the Rules and Instructions of the Transportation, Maintenance of Way, and Signal Departments, reading, "unless a different speed is specified by train order, bulletin or time-table," is changed to read as follows: "unless a different speed is specified by train order, bulletin or Special Rules."

14 (w). Relative to Rules 14 (t) and 14 (u), instead of starting the first of the long sounds at the whistling post, as required by Rule 14 (u), the first of the long sounds will be started at such a point, depending on the speed of the train or engine, that the signal will be completed by ending the last sound immediately before reaching the crossing. The last sound may be prolonged, if necessary, and there must not be too much space between the sounding of the blasts. The duration of the complete signal must not be less than 10 seconds and not much more than 15 seconds.

The sounds of the whistle should be no louder than necessary to give adequate warning to traffic in vicinity of the crossing, thus avoiding unnecessary annoyance to residents.

The engine-bell must be ringing continuously until the engine has passed over the crossing.

17 (C). When rules require headlight to be displayed, electric headlights on road engines must be dimmed under conditions outlined below, except in foggy or stormy weather or when other conditions make it inadvisable:

In yards where yard engines are employed and at stations where switching is being done;

At meeting points, until the train to be met is clear of the main track;

When standing;

On two or more tracks when approaching trains running in opposite direction.

These instructions do not supersede or modify those contained in Rules 17 and D-17.

83 (S). Continued.

At Argo, all westward C. M. St. P. & P. passenger trains, but may proceed Argo to Seattle on clear interlocking signal indication at Argo, running with current of traffic being governed by Rule 152 (T).

Trains must register by registering ticket (Form 2642) as follows:

At Rieth, Nos. 17, 18, 21, 111 and 112;

At Black River, all first class trains and Nos. 691 and 692 or manifest extras. Train registering exceptions:

Unless otherwise instructed, first class trains and passenger extra trains must register at The Dalles passenger station; all other trains must register at The Dalles yard office;

At Albina, only trains which originate or terminate at that point will register; At Argo, only trains which originate or terminate in O. W. R. & N. yard at that point will register;

At Wabash, Tono Branch trains originating or terminating at that point must register in O. W. R. & N. train register located in N. P. telegraph office, Centralia;

At Blakeslee Junction, Grays Harbor Branch trains originating or terminating at that point must register in O. W. R. & N. train register located in N. P. telegraph office, Centralia;

83 (T). To enable compliance with Rule 83 at end of double track, conductors and enginemen of trains moving between East End Double Track and West End Double Track must fully identify trains between these stations. Trains displaying signals between East End Double Track and West End Double Track must whistle as per Rule 14 (k).

To enable westward trains originating at The Dalles to comply with Rule 83 when passing from double to single track at Crates, train register at The Dalles will also serve as train register for Crates, and conductors and enginemen must identify eastward trains which are superior or of the same class between The Dalles and Crates. Trains displaying signals between The Dalles and Crates must whistle as per Rule 14 (k).

To enable eastward trains originating at Seattle to comply with Rule 83 when passing from double to single track at Argo, train register at Seattle will also serve as train register for Argo, and conductors and enginemen must identify westward trains which are superior or of the same class between Seattle and Argo. Trains displaying signals between Seattle and Argo must whistle as per Rule 14 (k).

83 (U). Movement of westward C. M. St. P. & P. trains or engines from junction switch at Helsing Junction to Independence station will be governed by Home Block Signal 125. If this signal fails to change to proceed position when junction switch is opened, Grays Harbor Branch main track must not be occupied until protected as required by Rule 509 against eastward trains and Rule 99 against westward trains on Grays Harbor Branch. Movement of westward O. W. R. & N. trains or engines on Grays Harbor Branch main track from junction switch at Helsing Junction to Independence station will be governed by Home Block Signal 127. When a train or engine is stopped by this signal Rule 509 will govern. Trains and engines moving eastward from Independence will be governed by Home Block Signal 132 located just east of that point, complying with Block Signal Rules.

83 (V). Movement of westward Primo Branch trains or engines from junction switch, Cosmopolis, to Cosmopolis station, will be governed by Home Block Signal 499. If this signal fails to change to proceed position when junction switch is opened, Grays Harbor Branch main track must not be occupied until protected as required by Rule 509 against eastward trains and Rule 99 against westward trains on Grays Harbor Branch. Trains and engines moving eastward from Cosmopolis will be governed by Home Block Signal 508 located just east of that point, and westward Grays Harbor Branch trains and engines will be governed by Home Block Signal 501, located just west of Blue Slough, complying with Block Signal Rules.

84 (B). Rule 84 (A) of the "Rules and Instructions of the Transportation Department" is changed as follows:

"On freight trains approaching sidings, if everything is all right, the conductor will, if practicable, signal the engineman to proceed. This will be answered by 14(b).

17 (D). Headlights on all engines must be kept burning while between St. Johns Jet. and Peninsula Jet. whether day or night.

19 (F). When passenger trains are being switched, the markers must be removed to prevent obscuring the view of the engine men.

19 (R). Train indicators are not required on trains operating between Portland and Seattle.

26 (A). Blue flag or blue light must in all cases be displayed on the same side of train at each end.

26 (B). When necessary to protect against the moving or coupling into, of certain bad order cars on repair tracks with other cars, some of which it may be necessary to move, a red flag by day and a red light by night must be displayed on such cars to indicate that they must not be moved or coupled into under any circumstances.

These instructions do not change or modify Rule 26 in any way.

27 (A). In block signal limits, trains will not be required to stop for a switch-light not burning at night, when it can be seen that the switch is in proper position.

28 (A). A white indicator board displayed at a station will indicate to trains doing local work that there are cars or LCL freight to be moved.

83 (E). Train registers will not be used by train or engine men as a means of identifying extra trains.

83 (R). Clearance card (Form 2643) must be received as follows:

At Pendleton, by all first class trains;

At Umatilla, by all trains;

At Black River, by all westward trains;

At Centralia, by all westward Grays Harbor Branch trains originating at Blakeslee Junction;

At Centralia, by all eastward Tono Branch trains originating at Wabash;

At Independence, by all westward C. M. St. P. & P. trains originating at Helsing Junction;

At North Jet, by all eastward Oregon Trunk trains originating at South Jet.;

At North Jet, by all O. W. R. & N. trains.

Northern Pacific clearance card A (Form 1357A) must be received as follows:

At Reservation, by all eastward second class and extra trains passing through Tacoma;

At Northern Pacific Fifteenth Street telegraph office, by all eastward second class and extra trains originating at Tacoma.

Trains are not required to receive clearance card (Form 2643) as per Rule 83 (A) as follows:

At Joseph, all first and second class trains, when no operator on duty;

At East Olympia, all westward trains;

At Argo, all westward C. M. St. P. & P. passenger trains;

At Tono, all westward trains;

At Primo, all westward trains;

At Cosmopolis, all eastward trains Primo branch;

At North Portland Jet., all westward trains.

83 (S). Trains must ascertain whether all superior trains due have left as follows: At Northern Pacific Fifteenth Street telegraph office, Tacoma, all eastward second class and extra trains originating at Tacoma;

At Reservation, all eastward second class and extra trains passing through Tacoma.

Trains are not required to ascertain whether all trains due, which are superior, or of the same class, have arrived or left, as per Rule 83, as follows:

At Peninsula Jet., all westward trains and engines, but may proceed Peninsula Jet. to St. Johns Jet. on clear interlocking signal indication.

Continued on page 3.

84 (C). Passenger conductors must get on the ground at all stops, including flag stops and blind sidings, and the conductor must give the proceed signal.

90 (R). Trains taking sidings to meet or let other trains pass at stations where two sidings are provided, must in all cases occupy the siding designated for trains moving in their direction, unless otherwise directed by train order.

Time-table shows stations where Eastward and Westward sidings are located. With the following exceptions Eastward siding is the one located farthest east, and Westward siding is the one located farthest west.

Exceptions:

Baker, Eastward siding is the one located farthest west, and Westward siding is the one located farthest east;

Meacham, Westward siding is the one located next to main track, known as No. 1 track, and Eastward siding is the second track from main track, known as No. 2 track;

Gibbon, Eastward siding is the one next to main track, known as No. 1 track, and Westward siding is second track from main track, known as No. 2 track. When necessary to take siding at Hood River trains will use tracks as follows, unless otherwise instructed:

All westward trains, use siding No. 2 (south of main track);

Eastward passenger, mail, and express trains, use cross-over from main track to siding No. 1 (north of main track);

Eastward freight trains, use siding No. 1 (north of main track).

93 (R). Yard limits are established, and defined by yard limit signs, at the following stations:

Huntington	Hermiston	Elgin	South Jet.
Dunke	Umatilla	Pilot Rock	North Jet.
Leonard	Messner	Heppner	Maupin
Unity	Arlington	Heppner Jet.	Aberdeen-
Hindman	The Dalles	(Heppner)	Cosmopolis
Pleasant Valley	Hood River	Branch only).	Montesano
Baker	Albina (embracing territory from 200 feet east of east switch and to M. P. 10, Portland Junction and to M. P. 10, Kenton Line, including East Portland, Albina and Kenton).	South Elma	Independence
Telocast	Troutdale	Helsing Jet.	Galvin
Union Jet.	Tacoma	Shaniko	Primo
LaGrande	Argo	Biggs (Shaniko Branch only).	Bridges
Hilgard	Seattle	Madras	Olympia
Glover	Joseph	Paxton	East Olympia
Kamela	Enterprise	Gateway	Wabash
Meacham	Wallawa		Tono
Huron			
Gibbon			
Rieth-Pendleton			

98 (A). When pulling into a siding, rear end of train must be clear of main track, when practicable, before train is stopped.

Trainmen and enginemen will be held responsible for striking cars on sidings or for damage done in making emergency stop to avoid striking cars. If view is obstructed, brakeman must be sent ahead.

As an additional protection, when cars are set out on sidings where dispatcher cannot be notified so that train order may be immediately put out covering, one torpedo must be placed at each end of siding a sufficient distance to permit train heading in to stop. (See Transportation Department Rule 825.)

These instructions will not apply on the Shaniko, Condon, Heppner and Joseph Branches.

98 (B). Where a train is required to stop at a railroad crossing at grade not protected by interlocking plant or automatic crossing signals, and the view from either side is obstructed more than 200 feet, a member of the crew must precede the train and give proceed signal from the crossing, if safe to proceed, and the train must not proceed over the crossing until the proceed signal has been received.

98 (R). The Washington State Law governing movement of trains over railroad crossings at grade is as follows:

"Trains shall stop at railroad crossings.— All railroads and street railroads, Continued on page 4.

operating in this State shall cause their trains and cars to come to a full stop at a distance not greater than five hundred (500) feet before crossing the tracks of another railroad crossing at grade, excepting at crossings where there are established signal towers and signal men, interlocking plants or gates."

After stop has been made for railroad crossings at grade engineman will sound proceed signal as per Rule 14 (b) before proceeding.

## 98 (S). JUNCTIONS AND RAILROAD CROSSINGS.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
Pendleton.	Washington Division.		Westward movements from Washington Division may be made on Oregon Division between junction and depot without protecting against first class trains, provided Home Block Signal 2165 changes to proceed position after junction switch is opened. When Home Block Signal 2165 fails to so change, Oregon Division main track must not be occupied until flagman has been sent in each direction on that track a sufficient distance to insure full protection.
Rieth.	Third Sub-division.		If a train is approaching on Third Subdivision main track, a train from Pilot Rock, Branch will not open the switch to, nor obstruct, the Third Sub-division main track until the approaching train has stopped.
Umatilla. (M.P. 183.9)	Washington Division.		Oregon Division trains will stop clear of the junction switch connecting east leg of wye and Washington Division main track, until it has been ascertained whether all Washington Division trains due which are superior or of the same class have arrived or left. If a train is seen approaching in either direction on the Washington Division main track, switch must not be opened or Washington Division main track occupied until approaching train has stopped or passed.
Portland (N. W. Front Ave.)	United Ry.	O. W. R. & N.	All trains and engines must approach prepared to stop before passing over crossing, expecting to find crossing occupied.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
East Portland.	S. P. and S. P. & S.		Interlocking Plant.
East Portland (S. E. Second Ave. and S. E. Hawthorne Blvd.)	P. E. P.	O. W. R. & N.	All trains and engines stop before crossing.
East Portland (S. E. Second Ave. between S. E. Salmon and S. E. Madison Sts.)	S. P. & S.	O. W. R. & N.	All trains and engines stop before crossing.
East Portland (S. E. Second Ave. and S. E. Morrison St.)	P. E. P.	O. W. R. & N.	All trains and engines stop before crossing.
Albina (N. Larrabee and N. Interstate Aves.)	P. E. P.	P. E. P.	All trains and engines stop before crossing.
Albina (N. Greeley Ave.)	P. E. P.	O. W. R. & N.	Gate. All trains and engines stop before crossing.
Peninsula Jct.	Troutdale Line.		Interlocking Plant.
North Portland Jct.	S. P. & S.		Interlocking Plant.
Blakeslee Junction.	C. M. St. P. & P. -N. P.		Interlocking Plant.
Schafer Bros. Crossing.	Schafer Bros. Logging Ry.	O. W. R. & N.	Cabin Interlocking Plant.
South Aberdeen (Donovan Mill)	N. P.	N. P.	All trains and engines stop before crossing.
Olympia (Jefferson and 7th Sts.)	N. P.	O. W. R. & N.	All trains and engines stop before crossing.
Olympia (Jefferson and 4th Sts.)	O. P. C.		All trains and engines stop before crossing.
Tacoma (11th St.)	City Ry.	O. W. R. & N.	All trains and engines stop before crossing.
Tacoma (St. Paul Ave.)	City Ry.	O. W. R. & N.	All trains and engines stop before crossing.
Tacoma (Fir Door Spur)	N. P.	N. P.	All trains and engines stop before crossing.
Tacoma (Dempsey Mill Spur)	N. P.	N. P.	All trains and engines stop before crossing.
Tacoma Yard	N. P.	N. P.	Cabin Interlocking Plant.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
Reservation.	N. P.		Interlocking Plant.
Black River.	C. M. St. P. & P. -P. C.		Interlocking Plant.
Argo.	N. P. -C. M. St. P. & P. -P. C.		Interlocking Plant.
Seattle (8th Ave., South)	City Ry.		All trains and engines stop before crossing.
Seattle (Spokane and 5th Aves.)	N. P.		All trains and engines stop before crossing.
Seattle (East Marginal Way)	City Ry.		All trains and engines stop before crossing.
Seattle (Spokane and Whatcom Aves.)	N. P.		All trains and engines stop before crossing.
Seattle (Whatcom Ave. and Holgate St.)	N. P.		All trains and engines stop before crossing.
Seattle (Whatcom Ave. and Massachusetts St.)	N. P.		All trains and engines stop before crossing.
Seattle (Railroad Ave. and Atlantic St.)	N. P.		All trains and engines stop before crossing.

98 (U). When a train is stopped by a signal at a railroad crossing protected by automatic signals, if it can be seen that there is no conflicting train movement, a trainman must proceed to the crossing and operate the clock work time release located at the crossing.

If operation of the time release does not clear the signal, the trainman may signal his train to proceed over the crossing if there is no train approaching on the conflicting route. If a train or engine is standing between the home signals on the conflicting route, the proceed signal must not be given until after a thorough understanding has been had with the crew of the train or engine on the conflicting route.

98 (V). All trains and engines must stop at stop boards and not proceed onto draw span of bridge between Montesano and South Montesano until they have called for, received and acknowledged proceed signal from bridge operator, and in addition must be governed by position of derail switch located 128 feet east and derail switch located 195 feet west of trestle leading to drawbridge. Between the hours of 6:30 P. M. and 5:00 A. M. on week days and 11:30 P. M. on Sundays and 5:00 A. M. on Mondays drawbridge span will be left open for river traffic and derail switches will be set in derail position. If necessary for train or engine to use drawbridge between these hours, engineman will sound one long, one short and one long (— o —) blasts of engine whistle to call bridge operator on duty, and if bridge operator does not respond promptly person in charge of train or engine will send a member of train or engine crew to bridge operator's house to notify him that draw bridge is to be used.

98 (W). All trains and engines must stop at stop boards and not proceed onto draw span of bridge at Tacoma until they have called for, received and acknowledged proceed signal from bridge tender.

99 (E). The duty of flagmen on passenger, freight and mixed trains is to enable prompt and immediate compliance with transportation rules 99, 99(A), 99(C) and other flagging rules. While train is in motion or is standing at points where flag protection is or may be required, this man must not be called upon to perform any other duties than the protection of his train in compliance with the rules unless specific arrangement is made in each instance with the conductor under which the conductor definitely states at that time that he or one of the brakemen will afford necessary protection of rear end of train. Within yard limits when unnecessary to protect or when clear of the main track on sidings, flagman may be called upon to perform duties the same as those of brakemen.

99 (R). When a train order is received reading, "All eastward (or westward) extra trains wait at . . . . . until . . . . .", the train addressed is relieved from protecting its rear end against following extra trains until the time named in the order.

On Oregon Division use of this train order is authorized only on all branch lines.

99 (S). Referring to Rules 99 and 99 (B): Enginemen on passenger trains standing at passenger stations at Hood River and The Dalles will not whistle signal for flagmen to protect rear of train, but when on the time of a following first-class train or otherwise required to flag, will call in flagman by whistle signal. When not on time of a following first-class train or otherwise not required to flag, passenger train conductors will recall flagmen by hand or lantern signal. These instructions do not in any way relieve conductors and flagmen of responsibility of protecting rear of train as required by Rules 93 and 99.

99 (T). Relative to Rule 99 (C): On trains moving over Willamette River bridge, between Portland and East Portland, trainmen should be on rear platform of rear car of train.

On trains 17 and 18 flagman must always be stationed on rear car next ahead of observation car while in motion, and he will get on and off rear end of such car when practicable.

101 (G). When a train encounters any dangerous defect in roadway or track, or is stopped by a block signal under circumstances which would indicate a defect in track or signal apparatus (see Rules 101, 101 (A), 509, 510 and 808), the fact must be reported to the train dispatcher from the first point of communication, telephone booth, or telegraph office.

101 (H). Trains will be handled with caution where sand is blowing, when weather is foggy or stormy and at points where there is liability of track being obstructed, losing time if necessary to insure safety.

D-102 (A). If a train is parted or is doubling from any cause and the front portion passes any switch of a cross-over, siding or other route via which it would be possible for another train or engine to enter, it must not move against the current of traffic in returning to the rear portion, unless a flagman is protecting the return movement at any and all such switches, or unless the return movement has been authorized and protected by train dispatcher.

103 (A). Cars must not be handled ahead of engine between stations, except as follows:  
When necessary to take cars to or from a spur;  
On work trains.

When this is done, it must be for no greater distance than necessary and the movement must be at slow speed, with air brakes cut in and operative on cars ahead of the engine.

In switching with an engine equipped with footboards, when there are no cars ahead of the engine, a yardman or trainman (and not more than one) must ride on leading footboard of engine in direction the engine is moving, on either yard or main tracks, except as follows:

When the switches to be passed over can be plainly seen to be properly lined; Where the movement is over a crossing protected by a crossing watchman on duty. See Rule 802 (A).

**103 (A) Continued.**

Where through movement is made:  
 At La Grande, over Greenwood Street;  
 Between Rieth and Pendleton;  
 Between Albina and Northern Pacific Terminal Co., Portland;  
 Between Albina and East Portland;  
 Between Albina and North Portland or Kenton;  
 Along Interstate Avenue to and from Larrabee Flats, Portland.  
 Employees are prohibited from riding on engines or cars as follows:  
 On engine footboard between engine and cars when cars are being pushed or pulled, except when necessary to make cut between engine and first car;  
 On leading footboard while coupling engine to cars;  
 On engine pilots;  
 On deadwood, drawbars, brake beams, journal boxes, or brake wheels;  
 On ends of cars containing loads which may shift.

**103 (B).** Engines must not be run under any coal mine tippie, nor over hoppers at coal chutes. Air must be working on all cars when putting up coal.

**103 (C).** A trainman, when one available, must ride rear of tank of a road engine backing up without cars while switching at stations or moving in yards.

**103 (R).** Cars must not be shoved ahead of engines through tunnel between St. Johns Jct. and Peninsula Jct. except business cars equipped with headlights.

**104 (F).** Spring switches are indicated by a letter "S" on switch target, and trains moving against the current of traffic must stop and examine switch points before passing over them.

After a train or engine has started through a spring switch, the switch must be set by hand for tracks over which movement is being made before a reverse movement is made, or before backing to take up slack.

**104 (G).** Roadway machines, such as ditchers, pile drivers, rail loaders, bridge derricks and the like, must not be dropped, either alone or with other cars, but must be shoved to a stop.

Cars of any kind must not be "poled" or "staked" by yard or road crews when it can be avoided.

**104 (H).** Relative to Transportation Department Rule 104 (A) and Maintenance of Way Department Rule 104 (E), on all cross-overs between a main track and any other track, both switches must be equipped with switch locks and they must be locked while trains are passing over them and must be left locked after they have been used.

**104 (K).** While being used, derail switches equipped with a switch stand must be locked. See Rule 104 (D).

**104 (R).** Switches will be set normally:  
 At East End Double Track (M. P. 272.0), for westward trains (spring switch);  
 At West End Double Track (M. P. 208.2), for eastward trains (spring switch);  
 At Meacham, Casey Mill track switch for spur;  
 At Hinkle, junction switch, for line via Munley;  
 At Umatilla, wye switch connection with Oregon Division main track for wye.  
 At Messer, junction switch, for line via Munley;  
 At Crates, for eastward trains (spring switch);  
 At Troutdale, junction switch, for line via Graham;  
 At Tacoma Jct., junction switch, for C. M. St. P. & P. track;  
 At Reservation, junction switch, for O. W. R. & N. main track;  
 At Joseph, main track switch east leg of wye, for wye;  
 At Joseph, switch at stem of wye, for east leg of wye;  
 At Enterprise, west switch of cross-over between main track and house track, for house track;  
 At Moro, for house track, which will be used as main track;  
 At Aberdeen, double track switch (250 feet east of depot), for eastward trains;  
 At South Montesano, wye switch on Montesano Branch, for east leg of wye;  
 At Helsing Jct., junction switch, for O. W. R. & N. main track.

**102 (R). Continued.**

Location	Maximum Speed Miles Per Hour		Remarks
	Psg.	Fr.	
At any point.	35		With C. M. St. P. & P. Class K 1 engines, equipped with swing motion trucks.
At any point.	25		With C. M. St. P. & P. Class K 1 engines, equipped with rigid trucks.
At any point.	35		With C. M. St. P. & P. freight engines with single trucks when handling or helping passenger trains.
Within yard limits: Main Line. Branch Lines: Joseph Branch. Heppner Branch. Condon Branch. Shaniko Branch. Bend Branch. Grays Harbor Branch. Olympia Branch.	40 30 30 25 30 30 30 30	25 15 15 15 15 25 15	Speed must be as much slower as conditions may require.
Through truss bridges.		6	Trains handling logs unless cars are staked and wired in accordance with A. R. A. rules.
On sidings.	15	15	
Interlocking plants.	15	15	
Railroad crossings at grade.	15	15	
On 4 degree curves.	50	40	
On 5 and 6 degree curves.	40	30	
On 7 and 8 degree curves.	35	25	
On curves of 7 degrees and over.	25	20	With 2-10-2 class engines.
On 9 and 10 degree curves.	30	20	
Over spring switches.	15	15	When using turnouts.
Over spring switches.	20	20	When not using turnouts, but where switch points will be caused to oscillate under such movement.
Over spring switches.	20	20	When not using turnout, but when movement is over facing point switch.
Through cross-overs and turnouts.		6	9000 class engines.
On wyes.		5	9000 class engines.

**D-151 (R).** Within yard limits at Kamela trains and engines must keep to the right, except that they may move against the current of traffic, without being preceded by a flagman, when not on the time of a first-class train.

Within yard limits at The Dalles, trains and engines must keep to the right, except that they may move against the current of traffic between Tie Plant switch at east end of yard and crossover west of passenger station, without being preceded by a flagman, when not on the time of a first-class train.

On parallel tracks between Portland and East Portland or Harding St., trains and engines must keep to the right, except that yard engines may move against the current of traffic without being preceded by a flagman, when not on the time of a first-class train.

Within yard limits at Argo-Seattle, trains and engines must keep to the right.

**102 (C).** Snow plows must not be operated through drifts when trains are seen approaching or are passing on an adjacent track. Flangers must be raised when passing over bridges, highway crossings, railroad crossings, frogs and switches, and through interlocking limits.

**102 (R). THE SPEED SHOWN BELOW MUST NOT BE EXCEEDED:**

(The speed shown under heading of "Psg." includes mail and express trains, and under heading of "Fr." includes mixed trains and light engines with or without cabooses. Freight engines used in passenger service on branches, must not exceed the speed specified for those engines in freight service.)

Location	Maximum Speed Miles Per Hour		Remarks
	Psg.	Fr.	
At any point.	60	40	
At any point.	50	40	With Mikado class engines with 63-inch drivers.
At any point.	45	40	With Mikado class engines with 57-inch drivers.
At any point.	50	40	With 2-10-2 class engines.
At any point.	40	40	With Consolidation class engines.
At any point.	50	40	With Simple Mallet engines.
At any point.	40	40	With Mallet engines.
At any point.	35	35	Light engines.
At any point.	20	20	Engines backing up.
At any point.		25	Trains handling locomotive cranes, pile drivers, steam shovels, rotary snow plows, ditchers and steam derricks.
At any point.	52		Motor M-98.
At any point.		20	Trains handling logs unless cars are staked and wired in accordance with A. R. A. rules.
At any point. Main Line. Branch Lines.		30 25	Trains handling scale test car.
At any point.	35		With C. M. St. P. & P. Class L engines.

Continued on page 7.

**102 (R). Continued.**

Location	Maximum Speed Miles Per Hour		Remarks
	Psg.	Fr.	
<b>First Subdivision.</b> Lime, high line track and connections. Leonard to Durkee. Pleasant Valley to Leonard. Pleasant Valley to Leonard. Between Pleasant Valley and Quartz. Baker. Telocaset to Union Jct.	30	10 25 20 15	Descending grade. Descending grade. Trains with all ore, wheat or gravel descending grade. Descending grade. Over street crossings within city limits. Descending grade.
<b>Second Subdivision.</b> Between Hilgard and Huron. Huron to Ducan. Pendleton. Pendleton. Pendleton.	30	20 15 25	Descending grade. Trains with all ore, wheat or gravel, descending grades. When retaining valves in use. Westward, over East Court street. Over Main street. Over other street crossings within city limits.
<b>Third Subdivision.</b> Echo. Echo, mill spur and wool warehouse. Hermiston. Hermiston, on house track west of McNaught warehouse. Umatilla, wye. Messer, from east yard limit board on line via Munley, to junction. Between Dillon and Umatilla, except on curve at Heppner Jct. depot. The Dalles.	20 15 15 10 15	20 6 15 6 15	Over first road crossing east and west of depot. With Mallet and 2-10-2 engines. Over road crossing east end of depot. With Mallet and 2-10-2 engines. Westward trains. Over street crossings.
<b>Fourth Subdivision.</b> The Dalles. Between Eagle Creek and Mile Post 42.5. Troutdale. Between Kenton and Troutdale. Tunnel between Peninsula Jct. and St. Johns Jct. East Portland Hill. East Portland. East Portland. Between East Portland and Albina. Portland.	12 35 12 45 25 20 8 8 10	12 25 35 25 20 8 8 10	Over street crossings. No. 18, to permit exchange of mail. With helper on rear of train. Entering East Portland interlocking plant from S. E. Second Ave., No. 10 lead, S. P. Yard or back track. Over frogs and crossings east end of Willamette River Bridge with 7000 class engines. Curve at Globe Mill. Over street crossings.

Continued on page 8.

Location	Maximum Speed Miles Per Hour		Remarks
	Psg.	Frt.	
<b>Fourth Subdivision—Cont.</b> Over crossings between Willamette River Bridge and Albina (including Knott Street).	12	12	
<b>Fifth Subdivision.</b> Over Puzzle Switch, Lucile Ave., Seattle. On curves at Dearborn Viaduct, Seattle.	10 8	10 8	7800 class engines. 7800 class engines.
<b>Joseph Branch.</b> Between Joseph and M.P. 55. Between M.P. 55 and Elgin. Between Elgin and La Grande.	40 30 50	25 18 30	
<b>Pilot Rock Branch.</b> At any point.	12 10	12 10	With 4900 class engines.
<b>Heppner Branch.</b> At any point. Between M.P. 23 and Heppner Jct.	30 35	25 35	
<b>Condon Branch.</b> At any point. Between Speece and Mikhalo. Between Barnett and Rock Creek.	25	25 15 15	On descending grades. On descending grades.
<b>Shaniko Branch.</b> At any point. Between Shaniko and M.P. 39. Between M.P. 33 and Moro. Between Hay Canyon and Sandon. Between Wasco and Thornberry. Between Thornberry and Biggs.	30 30 30 30 30 20	25 20 20 20 20 20 10	On descending grade. On descending grade. On descending grade. On descending grade. On descending grade. Over Willow Creek Viaduct.
<b>Bend Branch.</b> At any point. Between Metolius and Madras. Between Paxton and Gateway. Between Gateway and South Jct. Between North Jct. and Ainsworth. Between Metolius and M.P. 99.6. Between M.P. 99.6 and M.P. 95. On 15 degree curve, M.P. 87.4. Between M.P. 95 and M.P. 83.5. Between M.P. 83.5 and South Jct.	40 25 25 30 35 20 25 10 15 20	30 25 20 25 30 20 25 10 15 20	Within city limits. Over street crossings.
<b>Grays Harbor Branch.</b> At any point. Aberdeen. Aberdeen.	40 20 10	35 20 10	

**509 (H).** When a train is stopped by a block signal at a meeting or passing point on single track under conditions making it necessary to send a flagman ahead to comply with Rule 509 (A) or 509 (E), if the engineman of the train which is stopped is verbally informed by a trainman of the train on the siding that his train has more cars than the siding will hold, the train which is to use the main track may proceed at slow speed not exceeding six miles an hour to the next signal, expecting to find a train in the block, broken rail, obstruction, or switch not properly set, without sending a flagman ahead.

**509 (R).** When a home block signal displays stop indication due to switch being set to permit train to enter siding and engineman of train to take siding can see that switch is properly set for his train, such train may proceed into siding with caution without stopping for home block signal, upon receiving proper signal from trainman or switch tender.

**509 (S).** Junction switch at Troutdale is electrically controlled from the depot by the operator. Upper arm of Signal 157, located just east of junction switch, governs westward movement on The Dalles-Portland line and lower arm governs westward movement from The Dalles-Portland line to Kenton line. Clear indication of Signal 156 will authorize eastward trains from Kenton line to proceed to telegraph office without protecting against first class trains.

Sanders on engines must be kept closed while passing over this switch.

**525.** If a Home Block Signal fails to indicate "stop" or a Distant Block Signal fails to indicate "caution" when a block is entered, a member of the crew must be left at the signal; the train dispatcher must be notified from the first available point of communication and report must be sent to the superintendent by wire. The employee left at the signal must stop and notify all trains moving in the direction governed by that signal and must remain there until relieved by an employe of the Signal Department or by instructions from the proper officer.

**525 (A).** If a Home Block Signal fails to indicate "stop," or a Distant Block Signal fails to indicate "caution" when a light engine, or a motor train with only one trainman, enters a block, the train dispatcher must be notified from the first available point of communication, and report must be sent to the superintendent by wire.

**563 (R).** Interlocking plant, Schafer Bros. Crossing: Signal will automatically change from "stop" to "proceed" upon approach of train provided crossing is not occupied. Should signal fail to so change and crossing is not occupied, a member of the crew must examine derails and if found in non-derailing position, and no one in interlocking station, train may proceed through plant under flag protection at speed not exceeding six miles per hour.

**663 (S).** Interlocking station controlling movements of trains and engines between St. Johns Jct. and Peninsula Jct. is located at St. Johns Jct.

Within limits of interlocking plant before handling hand operated switches or electrically controlled switch at junction of Troutdale and North Portland lines, trainmen or enginemen must secure authority and instructions from operator at St. Johns Jct. by telephone. After using electrically controlled switch it must be restored to position in which it was found and operator at St. Johns Jct. so advised by telephone.

When, after calling for a route, an interlocking signal fails to indicate proceed and it is necessary for train or engine to stop, operator at St. Johns Jct. must be immediately notified by telephone; if he is then unable to clear signal due to plant failure or other cause, he must communicate with dispatcher who may authorize train or engine to proceed under flag protection through that portion of plant known to be obstructed or out of order. When such authority to flag has been secured train or engine must not enter such portion of plant until flagman has passed through same and has notified operator at St. Johns Jct. that there is no visible obstruction to prevent movement of trains or engines. Operator at St. Johns Jct. may then authorize train or engine to proceed at a speed not exceeding six miles per hour. Flagman before reporting track apparently clear for use by train or engine must examine all switches and derails within limits of portion of plant through which it is necessary to flag.

**674 (R).** To indicate the route to be used through interlocking plants, the following engine and motor whistle signals will be used: ("The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds.)

Location	Maximum Speed Miles Per Hour		Remarks
	Psg.	Frt.	
<b>Grays Harbor Branch—Cont.</b> Cosmopolis. Cosmopolis. Blue Slough.	20 8 6	15 8 6	Within city limits. With logs within city limits. On rollways.
<b>Primo Branch.</b> At any point.	25	15	
<b>Tono Branch.</b> At any point.	25	15	
<b>Olympia Branch.</b> At any point.	35	25	

**Note.**—Figure on stake at beginning of curve indicates degree of curvature.

**152 (T).** All trains and engines must be under control through sidings, interlocking plants and yard limits. Under control means to be able to stop within one-half the distance track is seen to be clear.

**201 (R).** Unless otherwise directed, between Troutdale and Portland or Albina all freight trains will run via Kenton and all passenger and mixed trains will run via Graham.

**211 (C).** Rule 211 (B) of the "Rules and Instructions of the Transportation Department" is changed as follows:

"A '19' train order must not be used for restricting the superiority of a train except in block signal limits, and the '31' form must be used there in the following cases: as required in Rules 208 (A), 217 and 219; when a train order is sent to a train at a point within block signal limits, restricting its superiority at a point not protected by block signals; when moving trains against the current of traffic, as per train order Form D-R and when using a section of double track as single track, as per train order Form D-S."

**221 (R).** Trains will be governed by indication of train order signal and will not sound whistle signal as required by Rule 221 (A) as follows:

Pendleton —all first class trains;  
Arlington —all trains;  
Hood River —all trains;  
Independence —all trains;  
Aberdeen —all eastward trains.

**509 (E).** Relative to Rule 509 (B), except in yard limits, flagman must be sent ahead at night, even though the next signal in advance is in plain view and the track can be seen to be clear.

**509 (F).** When a train is stopped by a block signal, on double track when ready to proceed as per Rule 509 (C) and on single track when the flagman is not to be sent ahead as per Rule 509 (B), two long sounds of the engine whistle 14 (b) must be given before the train proceeds.

**509 (G).** On single track, when a light engine, or a motor train with only one trainman, is stopped by a block signal under conditions making it necessary to send a flagman ahead to comply with Rule 509 (A) or 509 (E), after placing two torpedoes immediately at rear of train, it may proceed at slow speed, not exceeding six miles an hour, expecting to find a train in the block, broken rail, obstruction, or switch not properly set, without sending a flagman ahead.

#### At East Portland:

For Portland .....  
For Albina ..... 0  
For Graham .....  
For S. P. main line ..... 0  
For S. E. Second Ave ..... 0 0  
For S. P. yard ..... 0 0  
For transfer track ..... 0 0  
For East Side Freight Terminal ..... 0 0

#### At St. Johns Jct.:

For North Portland Jct .....  
For Kenton ..... 0  
For St. Johns ..... 0

#### At Peninsula Jct.:

As westward trains and engines approach and pass whistling posts and microphones located approximately one-half mile in advance of home interlocking signals on North Portland Jct. line and Troutdale line, enginemen will sound whistle signals as follows:

For tunnel and main track to Albina ..... 0  
For tunnel and yard lead to Albina ..... 0

#### At Argo:

For Seattle .....  
For yard lead ..... 0  
From Seattle to Pacific Coast R. R. .... 0  
From Argo yard to Georgetown lead ..... 0

**703 (A).** Each employe governed by Hours of Service Law must notify superior officer of the time the law requires him to be off duty early enough that he may be relieved, if necessary, before exceeding the hours of service permitted by law.

**713 (A).** A member of the crew must be stationed on the rear end in position to give or receive necessary signals when meeting trains on double track or when meeting trains on sidings. At stations where there is a depot, to be on the rear end when passing depot and at blind sidings to be on rear end when passing station board, except that when the train has an observation or special car, he must be on front platform of the rear car or on platform of the next car ahead. On passenger trains, the vestibule door must be open so that hot boxes or other defects may be detected.

**714 (B).** The use of alcohol or oil lamps or other heating devices not a part of car equipment, by passengers or employes in passenger train cars, is strictly prohibited under all circumstances.

**720 (A).** Stockmen must be given an opportunity to board cabooses and drover cars without necessity of doing so while trains are in motion.

**720 (B).** When practicable, outfit cars should be moved on local or mixed trains, and women or children occupants thereof should ride in the place provided for passengers on those trains. When it is necessary to move occupied outfit cars on through freight trains, if there are women or children with those cars whom it is not practicable to move in any other way, they may remain in the outfit cars during such movement when requested by foreman and authorized by the superintendent.

**720 (R).** Passengers may be carried on freight trains between stations at which the trains stop, as follows:

Persons in charge of live stock or other freight when provided with proper transportation.

Employes with trip passes when traveling on company business.

Passengers with revenue tickets when presented for passage on:

**Trains Between Stations**  
313-314 Bend Branch.

Passengers must not be loaded on freight trains until work is completed and train ready to leave.

Agents and conductors must notify passengers that local freight or mixed trains will stop with caboose opposite platform for them to get on or off.

**722 (A).** Dead engines, disabled engines, or engines with one or more rods taken down must not be hauled in fast freight trains when it is possible to avoid it. With side rods or main rods down a speed of fifteen miles an hour must not be exceeded.

**722 (A). Continued.**

With side rods and main rods in place the maximum speed may be increased to twenty-five miles an hour, unless otherwise restricted.

Gear engines of the Shay, Climax, Heisler and similar types, when not in gear, may be handled at whatever speed is permitted for freight trains over the district upon which being handled, unless waybill specifies a lower speed, or attendant in charge requests in writing a lower speed.

**802 (A).** When one or more cars are being switched or pushed over a road crossing not protected by a watchman or employe assigned as such, or, when a road engine, with or without cars, is backing over such a crossing at a station, a member of the crew must precede the movement and act as crossing watchman, and he must not get on front end of the leading car or on rear of tank until it has passed over the crossing.

When a train is parted to clear a public crossing, or is standing near such crossing, a trainman must act as crossing watchman when a train or engine is approaching on a siding or main track.

When a crossing watchman is on duty, trainmen must not give signal for highway traffic to come ahead.

**802 (R).** At 15th St., Tacoma, all trains and engines must stop and a member of the crew must be sent ahead to act as crossing watchman.

**803 (A).** Before occupied outfit cars or drover cars are coupled into, the occupants must be notified. When such occupied cars are being switched, either in yards or on road, the air must be coupled through.

**803 (B).** Before placing cars at coal chutes, the engine foreman or conductor must consult with the coal chute foreman or employe in charge, and it must be known positively that there are no men about the cars where they might be injured, before permitting any move to be made.

**805 (A).** Cars must not be left on, nor foul of, what are known as "Lead Tracks" in the various yards when it can be avoided. When it is necessary to do so, the yardmaster, agent, or operator, must be immediately advised and he will notify trains entering or leaving the yard. This does not relieve trainmen, yardmen, or enginemen, from proper observance of yard rules, and they will be held strictly accountable for yard accidents on lead tracks, as well as on any other track in yard, whether such notice is received or not.

**807 (A).** When a train is delayed, trains following must be allowed to pass as promptly as possible, and the conductor and engineer of the delayed train will be held jointly responsible for delay resulting from failure to comply with these instructions.

**820 (R).** Allowance for empty and underloaded cars as indicated below must be reported as required by Instruction 24 on Form 1216, "Conductor's Car and Tonnage Report".

	For each empty or loaded car weighing less than 40,000 pounds (including light wt. of car)	For each empty or loaded car weighing between 40,000 and 50,000 pounds (including light wt. of car)
Huntington and Rieth	3000 lbs.	
Umatilla to Hinkle	3000 "	
Bonneville to Cascade Locks	3000 "	
East Portland to Graham	3000 "	
Vader to Napavine	3000 "	
Centralia to Napavine	3000 "	
Rondowa to Joseph	3000 "	
Rondowa to Elgin	3000 "	
Rieth and Pilot Rock	3000 "	
Arlington to Condon	3000 "	
Biggs to Shaniko	3000 "	
North Jet. to Bend	3000 "	
Primo to Cosmopolis	3000 "	
Hoquiam to Cosmopolis	3000 "	
All other	6000 "	3000 lbs.

**837 (A). Continued.**

The vestibule curtains must be drawn across the diaphragms on deadhead and active passenger equipment while being handled in passenger, mail and express trains.

**847 (A).** When passenger train cannot be properly heated, wire report thereof must be made to superintendent.

During snow storm or extremely cold weather, engine must not be detached from passenger train if it can be avoided; if it becomes necessary to do so, or if train is separated for any reason, trainmen and enginemen must exercise care, drain steam line and disconnect steam hose between cars, if necessary, to prevent freezing.

Engine or detached portions of train must be recoupled and steam line again connected as quickly as possible to avoid discomfort to passengers.

**847 (B).** As a precaution against personal injuries to passengers, trainmen will use the words "Please Watch Your Step", when passengers are boarding or alighting from train.

**847 (C).** When engines equipped with track sprinklers are used on trains carrying passengers, sprinklers are to be operated day or night when speed of train is in excess of 20 miles an hour, over and approximately 100 feet on each side of open road crossings at grade, entering and leaving station grounds, at known dusty locations, passing trains on adjacent tracks, and as indicated by sprinkler signs.

Sprinklers must not be operated when passing depots if there are any persons on the station platform, and are not to be operated on station platforms when train is making a station stop.

Enginemen must handle in such a way as to result in comfortable condition to passengers on observation platform.

**849 (A).** Trainmen must use every effort to keep unauthorized persons off their trains, and when unable to do so peaceably, chief dispatcher must be notified by wire so that officers may be called to assist.

**860 (R).** In freight train service, head brakeman is not permitted to ride in caboose regardless of number of cars in train. This does not apply to mixed trains.

**865 (A).** Trainmen, enginemen, yardmen, agents, and other employes who in any way handle or care for explosives and other dangerous articles must familiarize themselves with the regulations and instructions governing the handling of them.

Conductors must notify enginemen of the presence and location in the train of cars containing explosives and of loaded placarded tank cars before leaving the initial station or station where such cars are picked up.

Between points where separate trains are operated for freight service only, cars containing explosives must not be handled in a train that carries passengers. (BE 676).

Between points where only mixed train service is operated, or where passengers are carried in the caboose of a freight train, a car containing a freight shipment of explosives, or a tank car placarded "Inflammable" may (unless otherwise instructed) be hauled, but such cars must not be placed next to a car carrying passengers. (BE 676-b).

Cars placarded "Explosives" must be placed in through freight trains near the middle of the train and must be not nearer than the 16th car from the engine, electric locomotive, or motor car, nor the 11th car from the caboose, or other cars carrying passengers, if the length of the train will permit. (BE 677-a).

Cars placarded "Explosives" may be placed in local freight, local pick-up, and local set-out trains not nearer than the second car from the engine, electric locomotive, motor car, caboose or other cars carrying passengers, when placing them near the middle of the train would require additional switching at way stations. (BE 677-b).

Cars placarded "Explosives" must have hand and air brakes in service and must not be placed next to cars placarded "Inflammable" or "Corrosive Liquid", nor next to empty or loaded tank cars, wooden frame flat or gondola cars, nor next to carloads of pipe, lumber, poles, iron, steel, or similar articles liable to shift and break through end of placarded car; nor next to cars containing lighted heaters, stoves or lanterns, or occupied by attendants. (BE 676-677c-677d).

Placarded tank cars must not be placed in trains next to cars placarded "Explosives", nor next to cars containing lighted heaters, stoves or lanterns, nor next to gondola or flat cars with lading such as logs, lumber, rails or pipe that is likely

**824 (A).** When a break-in-two occurs, after the train is again together and ready to move, trainmen must make inspection as the train pulls by them, looking for possible draft rigging and coupler defects and at first stop they should carefully inspect entire train.

**824 (B).** Trains setting out cars account hot box will remove packing from box which was running hot. Brasses and oil soaked waste removed from cars on road must be retained and exchanged for new, leaving old waste in bucket, and brasses on caboose platform.

**824 (C).** When necessary to remove keys from brake heads, or when working on brake rigging, cut-out cock in branch pipe must be closed and reservoirs bled. Where cut-out cock is located in cylinder pipe, the latter only need be closed. All keys must be replaced before brakes are cut in, to avoid personal injury.

**824 (D).** Conductors must report by wire to superintendent and trainmaster, from first open telegraph office where train stops, cases of brakes sticking, giving car numbers and initials.

**824 (R).** In addition to making inspection of train as often as practicable as per Transportation Rules 824 and 827, and Air Brake Rule 1059(A), all freight trains must stop and be given walking inspection by train crews at the following points:

- Bonneville
- Wyeth
- Arlington
- Castile Rock
- Rocky Point
- Westward;
- Eastward;
- Eastward and Westward;
- Eastward;
- Westward.

When westbound freight trains do not have to stop at Bonneville for anything but train inspection and water, train will be inspected and water taken at Wyeth, eliminating stop at Bonneville.

Inspection of eastbound trains may be made at Dodson when train stops there for some other purpose, eliminating stop at Wyeth.

**825 (R).** When storing cars at stations or on sidings, all cars except flat cars and cars of all-steel construction, must be stored in cuts of five with a clear space of 100 feet between each cut and must not be placed alongside of warehouses or other wooden buildings when it can be avoided.

Cars spotted on tracks other than warehouse tracks, must clear street line of public crossings not less than 60 feet. If possible, when a train is parted to clear a public crossing, or is standing near such crossing, a clear space of 60 feet will be left on each side of the crossing.

At following points cars must be left to clear crossings not less than 100 feet:

- Mission
- House track;
- House track;
- Nolin
- Stanfield
- Passing track and house track at depot;
- Cosmopolis
- House track west of depot;
- Preachers Slough
- Log Rollway;
- Cedarville
- Passing track.

**826 (A).** When employes, passengers, or others are injured, call the nearest railroad surgeon. If the persons injured are not employes, they should be sent to their homes or placed in charge of local relief authorities, after immediate necessary attention has been given by the railroad surgeon.

When necessary to call surgeons, other than those regularly employed by the railroad, it should be with the distinct understanding that their services will not be required after arrival of the railroad surgeon.

**835 (A).** Passengers in coaches or chair cars are permitted to place packages, traveling bags, etc., in the racks provided for that purpose when they can be safely carried there, but when not, they must be placed on floor, but not in aisle of car where they might cause someone to fall. The reason for this requirement must be explained to the owner.

**837 (A).** Gate at front end of first coach next to baggage or mail cars must be closed at all times in order to prevent possibility of personal injury to passengers, account buffers between these two cars not being protected by curtains.

When occupied passenger equipment is being switched, or while standing uncoupled, open ends of cars must be protected by closed gates. Also, rear gate must be closed on moving trains.

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Continued on page 11.

to shift, and when practicable must be placed not nearer than the sixth car from the engine, electric locomotive, motor car, caboose, or other cars carrying passengers. (BE 677-e).

Empty tank cars must not be moved from stations unless dome cover and all outlet caps have been replaced and wrenched tight, shipping tags and cards removed from car, and "Inflammable" placards removed or replaced by "Dangerous Empty" placards.

When placards become detached in transit, conductor must see that they are replaced upon arrival at the next terminal, if in through trains, or at first station stop if in local freight trains. (BE 675).

BE numbers shown above refer to correspondingly numbered regulations of the Bureau of Explosives, Interstate Commerce Commission.

**865 (B).** Cars designated below must be handled in rear of train, and next to caboose in the order named:

Drover cars, occupied or unoccupied;

Scale test cars;

Cars with emergency drawbars;

Outfit cars;

Emigrant movables (except steel underframe cars may be placed near head end when so requested by attendant in charge);

All wooden underframe cars;

Any car tagged with Form 4725 reading, "Handle only at rear end of train".

Trains containing drover cars must not be pushed by an engine at the rear. If it becomes necessary, in an emergency, to clear main track by use of an engine at rear of the train, the drover cars must first be vacated.

When a helper engine is used, it must be cut in ahead of drover cars. (See Special Rules 865-C, 865-R and 865-S).

Switching must not be done with drover cars, except in handling to or from trains.

Live stock must be handled in head end of train when practicable, and stock cars loaded with scrap, boards, engine wood, long rods, bolts, or any commodity which might work out of openings in sides or ends of car, must not be moved until these openings are properly slatted.

Freight cars with bad order draw bars may be handled in trains under the following conditions:

(a) When not containing live stock or perishables, may be chained up in train and handed to first available side track where must be set out to be repaired;

(b) When containing live stock or perishables, may be chained up in train and handed to first repair point;

(c) When containing any commodity or empty, may be handled behind the caboose to destination or to first terminal, provided the good draw bar can be coupled to the caboose and in addition is secured by chain, and has air and hand brakes operative. On ascending grades a trainman must ride the car.

A red flag by day or a red light by night must be displayed on the rear of any car handled behind caboose.

Rotary snow plows handled in freight trains will be handled next to the caboose with the rotary wheel to the rear.

**865 (C).** When not used on head end of train, helper engine must be cut in ahead of caboose, and when there are wooden underframe cars or drover cars on the rear end, the helper engine must be cut in ahead of them.

**865 (R).** Helper engine on passenger train will be coupled ahead of train engine. Handling helper engines on freight trains, two Mikado or one 2-10-2 class engine will be handled as one Mallet; and one Consolidation class engine the same as one Mikado engine.

Helper engine on freight train between Duncan and LaGrande, Durkee and Baker and Union Jet. and North Powder must be cut in on rear of train as close ahead of caboose as conditions permit but always ahead of outfit cars and cars carded "Handle on Rear", except that from North Powder to Telocasset helper engine may be placed ahead of engine or cut into head end of train.

Cars picked up on road which conductor considers weak must be handled the same as though carded "Handle on Rear."

Whenever three engines are used on freight train, the second Mallet must be cut in just ahead of tonnage rating of third engine, and third engine placed ahead of caboose or ahead of outfit car or cars carded "Handle on Rear," except that when one of the three engines is a Mikado class engine, it must be used as rear engine.

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**865 (S).** Engines equipped with pilot plow which requires extension of draw bar, must not be used as helpers unless placed at head end of train.

**877 (A).** Employees must not go out on exterior of cab of, nor hang out from gang-way or steps of, a moving engine for any purpose. When this is necessary, the engine must be stopped.

**881 (A).** When engines under steam are standing, whether coupled to other equipment or not, the engineman must personally see that the throttle is closed and latched, cylinder cocks opened and reverse lever latched in center notch; and that straight air is applied on engines so equipped.

**882 (A).** The engineman or fireman must not move the engine or any part of its machinery, unless he knows that it can be done without injury to anyone.

**883 (B).** Due to the extremely high temperatures developed in cylinders, superheated engines cannot be drifted with tightly closed throttle without serious damage to lubrication, cylinder packing, rod packing, building up carbon deposits, and seriously injuring the service of the engine. It is therefore necessary to keep a certain amount of steam in the cylinders of superheated engines while they are moving.

The following rules must be observed on all superheated engines:

On all drifting grades the main throttle of all engines must be partly opened or cracked a sufficient amount to prevent a vacuum in the cylinders. Mallet engines when descending heavy grades may be drifted with closed throttle after moving a sufficient distance with the drifting throttle to permit cylinders to cool below the flash point of the oil.

In approaching a stop, a small amount of steam should also be worked through the cylinders. The throttle should never be entirely closed but the pressure gradually reduced with the throttle until freight engines are down to approximately 4 miles an hour when throttle should be closed. On engines in passenger train service, the throttle may be closed approximately one train length before the stop when this is necessary in order to make a satisfactory stop. However, it is permissible when conditions are favorable, such as working slowly to a stop up heavy grades, to work steam to an entire stop.

While drifting, the reverse lever should be in the highest cut-off consistent with proper cushioning of the moving parts.

On engines approaching or stopping at passenger stations and working a light throttle, the reverse lever should be moved towards the corner sufficiently so that the engine will drift smoothly and without pounding in the rods and boxes; the drifting pressure can be controlled in this way with the reverse lever as well as with throttle. These rules do not apply to emergency stops.

Mallet engines must not be cut into simple except to assist in starting train.

**883 (A).** Blow-off cocks must not be opened on either side of engine at any point where liable to cause personal injury or damage to property.

**883 (B).** Enginemen operating 3-cylinder locomotives must use special care to see that cylinder cocks are opened and cylinders thoroughly drained when starting out at terminals or at other times when engine is cold; must also exercise special caution in preventing high water in boilers which carries over into cylinders. Much damage has been done to 3-cylinder engines by neglecting these precautions. Enginemen must know positively that dope cups and oil cavities on inside main rod are properly filled and lubricating.

**884 (A).** Enginemen going on duty must know that the stoker lubricators and oil cups are filled and feeding; and that stokers are operating properly. First slide over conveyor may be opened before engine leaves ash pit and stoker should be operated sufficiently to know that it will run properly.

When standing on sidings or drifting on long grades stoker engines and jets must be shut off and engine hand-fired except when coal is out of reach of fireman or when necessary to comply with safety instructions.

All except the first slide over conveyor trough must be closed while taking coal and descending designated grades. All slides must be closed when approaching terminals where engine is to be removed from train, and elevator screw must be emptied of coal before necessary for firing ends, except where tank is full of coal and it is almost impossible to close first slide. Steam to stoker lubricator must be shut off in time for lubricator to cool at points where it is to be filled. Stoker valve at

steam turret, coal control lever, and crusher cover must be closed when leaving engine.

Report must be made if stoker or steam jets use an excessive amount of steam, or when there are defects in connection with the conveyor trough and slides.

**886 (A).** Conductors must report promptly by wire to the proper officer, all cases of rough handling of trains in their charge between terminals, also all rough handling of trains by road or yard engines at terminals that may come to their attention, and all cases of excessive whistling or other noise made by trains going by or around passenger trains, or at passenger stations.

When a passenger train is roughly handled, the conductor must call the engineman's attention to the fact at the first stop and explain to him just what occurred.

Conductor will be held responsible for failure to make report of any improper handling of the train.

**886 (B).** Enginemen on passenger and freight trains, when making maximum speed, must make application of air brakes approaching curves and on heavy curves keep brakes applied sufficient length of time around curve to steady train.

This is modified to the extent that on passenger trains, in order to avoid surging or rough riding of cars on curves, where operating conditions will permit, speed of train will be controlled so that brakes will be released while train is passing around curves, and where conditions will permit, the train should be pulled around curves with brakes released.

**888 (A).** While passing through cities, towns, and yards, there must be no failure to keep sharp lookout ahead on both sides of the engine. Firemen must do this in preference to other duties, except that they must keep the fire in such condition that there will be no loss of efficiency of the engine.

**888 (B).** Train and engine men must not wash up or change clothes while on duty going into terminals. They must be ready to handle any emergency which might arise, and washing up and changing clothes must not be started until after the train has been tied up or they are relieved from duty.

**889 (A).** Rule 889 of the "Rules and Instructions of the Transportation Department" is changed as follows:

"See that engine is supplied with twelve torpedoes, not less than three red fuses and equipment for proper hand and train signals. While running at night, have in cab, where it cannot be seen by passing trains, a red light, and, in case of danger, signal approaching trains."

**891 (A).** Enginemen on freight engines which are equipped with smoke deflectors, must test deflectors before entering tunnels and if it is found they are inoperative by air pressure, train must be stopped, and deflectors raised by hand. Such cases of inoperative deflectors must be reported to superintendent and master mechanic by wire from first open telegraph office at which stop is made, and in addition thereto, must be reported on arrival at terminal.

**891 (R).** Respirators are furnished for use of engine men and head trainman in passing through tunnels on the Fourth and Fifth Subdivisions. They must know that respirators are in good order. They will be held responsible for proper care and use of respirators and must report to proper officer any that are not in good order.

**893 (A).** On double track, whenever a train is stopped for any reason other than an ordinary stop made by the engineman, or when livestock, vehicles, or any other object has been struck by a train, it must be known that the opposite main track is not obstructed before permitting a train to pass on that track.

**894 (B).** Enginemen, before starting each trip with coal burning engines, must inspect ashpans and when pans are found to be defective, must not leave a point where repairs can be made, without written authority from roundhouse foreman regardless of delay to any train.

Before leaving any point where ashpan doors have been opened, enginemen must know that they have been tightly closed and securely fastened.

When fire is observed falling from ashpan, report must be made by wire to superintendent and master mechanic from first open telegraph office where stop is made, and attention must be called to it on work report at end of run.

Enginemen on engines equipped with ashpan sprinklers must, except in freezing weather, use the sprinkler before starting trip, and each time after the grates are

Continued on page 13.

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**894 (B). Continued.**

shaken or at any time when there are live coals in the ashpan. During freezing weather the use of ashpan sprinkler must be regulated by necessity in such manner as to avoid freezing up sprinkler or ashpan doors.

**895 (A).** Engines must not take coal while passenger trains are standing or passing on opposite track. Lumps of coal are liable to fall through windows of passenger cars, causing personal injury.

Enginemen must not move engines from coaling stations until they are sure that employees are off the tank.

**896 (R).** 700 class and heavier engines must not go on the following tracks:

Baker  
Graham  
Near M.P. 4  
Bruun  
Kenton  
—Sand spur;  
—Poole & McGonigle easterly track;  
—Montavilla Ice & Coal Co. track;  
—Wet Wash Laundry Co. spur;  
—Doernbecher Mfg. Co. middle spur, rear end;  
—Schlesser Bros. spur.

At Biggs, 700 class engines turning on wye will use switch on Shaniko Branch line and east leg of wye as trailing point and must not head in through this switch.

1743 class and heavier engines must not go on the following tracks:

La Grande  
Bodie  
Meacham  
Pendleton  
—Home Lbr. Co. track, except that 700 class engine may back in on this track;  
—Spur;  
—Casey Mill spur west of loading platform;  
—Collins spur;  
—Walters spur;  
—Mill spur.

2100 class and heavier engines must not go on the following tracks:

Baker  
La Grande  
Hermiston  
Biggs  
Cello  
Dillon  
The Dalles  
Bridal Veil  
Clarnie  
East Portland  
Albina  
—Davis Lbr. Co. spur;  
—Texaco Oil spur;  
—Bowman Hicks Lbr. Co. mill pond track;  
—Standard Oil spur;  
—Union Oil spur;  
—Wye track;  
—Taft spur;  
—Spur;  
—Track No. 9;  
Crossover between spurs at freight house;  
Crossover between lead and laundry spur;  
Old roundhouse spur;  
—West of scales on Bridal Veil Lbr. Co. spur;  
—Northwest Roads Co. spur;  
—Passing track;  
—House track;  
—Both wye tracks;  
—Curve on back track;  
—Lead to S. E. Second Avenue;  
—Globe Mill tracks;  
—Coach tracks 5 and 6, west turnouts;  
—Store lead;  
—Old Rip track 2 east of track crossing;  
—Old Rip tracks 3, 4, 5, 6, 7 and 8;  
—Edlefsen Fuel Co. tracks;  
—N. River Ave. track;  
—Montgomery Dock track;  
—Pacific Coast Elevator track;  
—Portland Flouring Mills spurs 1, 2, 3 and Jocko;  
—Gravel pit spur;  
—All sidings and spurs;  
—All spurs;  
—West end of team track;  
—All sidings and spurs;  
—All tracks west from main line past gas plant toward Carstens Packing Plant and Glacier Dock, except that 2100 class engine may be used to handle stock to and from Carstens Stock Yards;

7000 class engines must not go on the following tracks:

Huntington  
Lime  
Durkee  
Pleasant Valley  
Haines  
Telocaset  
La Grande  
Kamela  
Meacham  
Duncan  
—Wye;  
—High line;  
—House track;  
—Coal track; wye;  
—West end of stock track;  
—Wye;  
—400 feet of west end engine track No. 3;  
—Freight house track;  
—Ash pit tracks;  
—Casey Mill spur;  
—Wye; house tracks 1 and 2;

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- Pendleton
  - Wye tracks; all side tracks except Nos. 1, 2, 4 and 6; house track and short coach track;
  - Jones-Scott spur; Sand and Gravel spur;
  - Coal dock;
  - Wye;
  - Spur;
  - Spur;
  - Track No. 9;
  - Crossover east of freight house between lead and house track;
  - Crossover between lead and laundry spur;
  - Old roundhouse spur;
  - Runaround track . . . turn table;
  - Roundhouse track leading to Stall 1;
  - Libby-McNeil Dryfresh tracks;
  - Crossover at freight house;
  - Quarry spur;
  - East Portland to Clarnie;
  - Albina except main leads and main yard tracks and engine house leads;
  - At Kenton and St. Johns.
- Hood River
- Bridal Veil
- All spurs
- All tracks
- All spurs

When 7800 class engines are used in passenger service out of Portland, they must be headed east out of Albina and backed into Portland from East Portland. On movement from Portland to Albina, these engines will back up to East Portland and towards Sullivans Gulch, then head to Albina. These engines must not be put around north leg of wye at East Portland.

9000 class engines must not go on the following tracks, and when necessary to switch on these tracks with this class of engine, sufficient number of cars should be handled next to engine so that engine will not move over turnout to these tracks.

- Huntington
  - Track No. 217 (crossover between old and new yard);
  - Track No. 213 (caboose lead track);
  - Track No. 11 (main engine lead to turntable);
  - Wye and stock tracks;
  - Tracks No. 2—generally called No. 9 track through yard can be used but engine must not exceed speed of 5 miles per hour.
  - High line and hole track;
  - House track;
  - Wye track;
  - West end of stock track;
  - Ice spur; Stock Track eastward from stock yards; Oil Track and Mill spur;
  - Wye track;
  - Spur track;
  - House track;
  - Spur track;
- Lime
- Unity
- Baker
- Haines
- North Powder
- Union Jct.
- Gibbon
- Thorn Hollow
- Mission

898 (A). Enginemen will give two long and two short sounds of engine or motor whistle when approaching a train which is stopped on opposite track on double track, and when approaching a train which is on a siding on single or double track. On double track special care must be taken to sound warning signals, and particularly when trains or engines are approaching highway crossings from opposite directions at the same time.

Work trains unloading ballast in double track, must stop when a train is passing on the opposite track.

899. Employees must inform themselves as to the location of all structures or obstructions where clearances are close, and must exercise care to avoid injury therefrom to themselves or others.

899 (A). Jordan spreaders, or other spreaders of that class, when handled in freight trains, must be headed in the direction train is moving. When handled in worktrain service, the wings must be thoroughly secured.

1044 (R). Continued.

grade, whenever engine is changed, cars picked up or set out, air hose parted, angle cock turned, or train has been standing for 30 minutes or more.

This test will also be made on all freight and mixed trains before descending grade on Condon Branch between Barnett and Rock Creek and on Shaniko Branch between Biggs and Klondike, and this test will also be made at intermediate points on these grades either ascending or descending, whenever engine is changed, cars picked up or set out, air hose parted, angle cock turned or train has been standing for 30 minutes or more.

1048 (B). On freight and passenger trains when undesired quick or emergency action of brakes has occurred on service reduction, thereafter, before starting service reductions, enginemen will place brake valves in release position for two seconds then in running position for one second then in service position for the reduction. This to insure all triple valves being in release position at the time service reduction starts thereby tending to avoid quick action of the brakes when making service reduction.

1060 (G). Locomotive and tender brakes on engines helping or pushing trains will be operated in conjunction with the train brake.

1061 (R). Running test as prescribed in Rules 1051 and 1051 (A) of Operating Rules governing Air Brakes effective December 1, 1925, will be made before descending grades as follows:

- First Subdivision, eastward and westward trains at Encina and Telocaset;
- Second Subdivision, eastward and westward trains at Kamela;
- Fourth Subdivision, westward trains at Mile Post 6 east of Graham;
- Condon Branch, westward trains at Speece, Mikkalo and Slutier;
- Shaniko Branch, westward trains at Kent, Mile Post 34, Klondike and Wasco, and eastward trains at Sandon and Mile Post 35;
- Bend Branch, westward trains at Mile Post 100.

1067 (R). A trainman must be stationed on rear of train with hand on air valve of tail hose ready to apply emergency brake if it becomes necessary at the following points:

Between Montesano and South Montesano—on passenger trains backing up.

1069 (R). Westward freight and mixed trains must stop and trainmen will inspect and adjust piston travel at Barnett, Grass Valley, Thornberry and Madras.

1060 (B). Trainmen must know condition of hand brakes on freight cars that have air brakes cut out.

1063 (B). That portion of Rule 1063 (A) of "Operating Rules and Instructions Governing Air Brakes", reading as follows:

"If the train has not more than 8 cars, release brakes so that they will be about off when the stop is completed, this being called 'pre-release'. With longer trains hold the brakes applied until stopped."

is modified as follows:

"If the train has not more than 12 cars and stop is being made except on a downward grade of 1% or more, the brakes should be released so that they will be about off when the stop is completed, this being called 'pre-release'. With longer trains hold the brakes applied until stopped."

1064 (B). Rule 1064 (A) of "Operating Rules and Instructions Governing Air Brakes" is amended as follows:

"After release of brakes, do not try to start train until ample time has been allowed for all brakes to release.

"Keep engine at very slow and uniform speed for three car lengths, as less distance may not have started entire train; except in starting on heavy descending grades move engine forward one or two feet and then by use of engine brakes stop the engine a sufficient length of time for slack to run gently and start entire train. If first movement fails to run slack sufficiently to start entire train, repeat this movement until entire train is started."

1066 (B). Freight trains consisting of more than twenty-five cars will cutoff engine to take fuel, water or sand when stop must be made on descending grade, or where there is more than one engine on the train. Trains under similar conditions will also cut off way cars before making spot.

899 (R). Employees must look out for overhead trolley wires with close clearance at the following points:

Station	Location	United Railways.
Portland.	N. W. Front Ave.	P. E. P. Co.
East Portland.	S. E. Second Ave. and S. E. Morrison St.	P. E. P. Co.
East Portland.	S. E. Second Ave. and S. E. Hawthorne Blvd.	P. E. P. Co.
Albina.	N. Larrabee Ave.	P. E. P. Co.
Albina.	N. Interstate Ave.	P. E. P. Co.
Albina.	N. Greeley Ave.	P. E. P. Co.
No. Portland.	Near Stockyards.	Kenton Traction Co.
No. Portland.	No. Portland Lbr. Co.	Kenton Traction Co.
No. Portland.	Moore Dry Kiln.	Kenton Traction Co.
No. Portland.	Alladin Co.	Kenton Traction Co.
Olympia.	Near Depot.	Olympia-Tumwater Elec. St. Ry., 4th and Jefferson Sts.
Tacoma.	Lead to O. W. R. & N. Dock.	Tacoma Ry. & Power Co. 2nd Crossing.
Tacoma.	Lead to O. W. R. & N. Dock.	Tacoma Ry. & Power Co.
Tacoma.	End of Lincoln Ave., at connection between O. W. R. & N., N. P. and Municipal Ry.	Tacoma Ry. & Power Co.
Black River Jct.	Lucile St. overhead bridge.	C. M. St. P. & P. R. R.
Argo.	8th Avenue South viaduct.	C. M. St. P. & P. R. R.
Argo.	Argo yard lead.	P. S. Elec. Ry.
Argo.	East Marginal Way.	C. M. St. P. & P. R. R.
Seattle.	Seattle Boulevard overhead bridge just east of passenger station.	Seattle Municipal Street Ry.
Seattle.	Jackson St. overhead bridge just west of passenger station.	C. M. St. P. & P. R. R.

899 (S). Trainmen must not ride on the side of cars or engines while moving in trains on Bend and Shaniko Branches as there are a number of places on these branches where clearance is impaired by narrow cuts.

899 (T). At Olympia there is insufficient clearance between Northern Pacific connection scale track and main track. Therefore trains or engines should not attempt to pass on main track if trains or engines are moving on connection.

899 (U). At Aberdeen there is insufficient clearance between coach track No. 1 just east of passenger station and main track at turnout. Therefore trains and engines should not attempt to pass on main track if trains or engines are moving on coach track No. 1.

977. White bands painted on telegraph or signal line poles indicate car length distance from switch of siding as follows: One band, 45 cars; two bands, 60 cars; three bands, 75 cars; four bands, 100 cars.

AIR BRAKES.

1014 (R). Engines in freight or mixed train service will carry 90 pounds brake pipe pressure on descending grades between Huron and LaGrande and between Encina and Leonard.

Passenger, freight and mixed trains will carry 90 pounds brake pipe pressure on Shaniko and Condon Branches and passenger and mixed trains will carry 90 pounds brake pipe pressure on Bend branch.

1044 (R). Road train brake test as prescribed in Rule 1044 (A) of Operating Rules governing Air Brakes effective December 1, 1925, must be made on all freight trains before descending grade between Encina and Leonard, Encina and Baker, Telocaset and Lun, Telocaset and Union Jct., Kamela and Hilgard, and between Kamela and Duncan, and this test will also be made at intermediate points on these grades by single engine trains ascending the grade and by all trains descending the grade.

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1077 (R). Retaining valves will be used on descending grades as follows:

All retaining valves must be used on passenger, mail and express trains, descending grades between Pleasant Valley and Leonard, and between Huron and Hilgard. Freight trains descending grades between Encina and Leonard, and between Hilgard and Huron must use one operative retaining valve for each fifty tons of train but in no case less than one-half of all retaining valves in train. If engineman finds it difficult to hold train or to recharge train, he will request train crew to turn up additional retaining valves necessary to insure safe control of train, stopping train if necessary.

Between Telocaset and Union Junction, and between Huron and Duncan, trains averaging not to exceed fifty gross tons per car may be handled without the use of retaining valves when handled by engines equipped with two air compressors which are operative. Responsibility for the use of retaining valves rests primarily with the engineman and he will direct as to their use. However, retaining valves must be used if in the judgment of conductor their use is necessary. On trains averaging to exceed fifty gross tons per car or trains handled by engines having one air compressor, one-half of all retaining valves will be used.

Retaining valves used shall be consecutively from head end of train.

At Union Jct. and Hilgard freight trains must reduce speed, and stop if necessary, to enable trainmen to handle retaining valves.

Condon Branch, on all trains Mile Post 35 to Mikkalo, Barnett to Rock Creek and Mile Post 2 to Arlington, all retaining valves to be used.

Shaniko Branch, on passenger trains Thornberry to Biggs, and on freight or mixed trains Mile Post 33 to Moro, Klondike to Biggs and Sandon to Hay Canyon, all retaining valves to be used.

On Bend Branch, freight and mixed trains on descending grades between M.P. 100 and South Jct. trains averaging not to exceed 50 gross tons per car may be handled without use of retaining valves. Responsibility for use of retaining valves rests primarily with engineman and he will direct as to their use. However retaining valves must be used, if in the judgment of the conductor, their use is necessary. On trains averaging in excess of 50 gross tons per car, one-half of the retaining valves will be used consecutively from the head end of the train.

On freight trains, trainmen will patrol top of train where retainers are used.

1079 (R). In addition to making inspection of train as often as practicable as per Rule 824, freight trains must stop and remain standing ten minutes to allow wheels to cool at the following points:

- Hindman—Eastward; Note.—No. 20 not required to stop at Hindman and Leonard under this requirement but will stop 10 minutes at Unity instead.

- Leonard —Eastward;
- Glover —Eastward;
- Meacham—Westward;
- Huron —Westward.

AUTOMATIC TRAIN CONTROL RULES COVERING AUTOMATIC TRAIN CONTROL OPERATION BETWEEN PORTLAND AND THE DALLES VIA GRAHAM

Automatic Train Control Rules

Definition

302. AUTOMATIC TRAIN CONTROL: A method of mechanically controlling train movements, independent of the engineman, should it become necessary.

302 (A). CAB INDICATOR:

Green indicates proceed.  
Red indicates stop or reduce speed.

Enginemen and Trainmen

302 (B). Automatic train control cab indicators supplement automatic block signals in governing the use of blocks, and do not supersede the superiority of trains, nor dispense with the observance of rules governing the use of automatic block or interlocking signals or other signals whenever and wherever they may be required, except to the extent specifically authorized in Special Rule 302(G).

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302 (C). Double heading cocks on engines equipped with automatic train control will be sealed in cut-in position and enginemen will inspect seal before departure to determine that it is unbroken.

When necessary to break seal to use double heading cock for any reason, enginemen will make report on ATC Report, Form 7483, stating why seal was broken. At end of trip broken seal must be delivered to roundhouse foreman together with suitable written report.

302 (D). The normal indication of automatic train control cab indicator is "Proceed";

302 (E). When the cab indicator shows red, engineman will acknowledge with acknowledging valve, and if speed is in excess of twenty (20) miles an hour, must immediately reduce speed to less than twenty (20) miles an hour.

302 (F). When cab indicator changes from green to red after having passed home block signal in "proceed" position, engineman must immediately reduce speed to six (6) miles an hour and not exceed that speed to the next signal in advance, expecting to find a train in the block, broken rail, obstruction, or switch not properly set.

302 (G). If cab indicator changes from green to red when within view of a distant block signal in advance, or after passing a distant block signal indicating "proceed", engineman will proceed at such speed below twenty (20) miles an hour as will enable him to stop before reaching the next home block signal in advance.

302 (H). When the speed of a train is restricted by automatic train control, or train is proceeding after having been stopped by automatic home block signal or automatic train control, if the cab indicator changes from red to green, the train may resume normal speed after engine has moved one train length beyond the point where the cab indicator changed from red to green.

When flagging through blocks should brakeman find plug pulled on rock protection fence and replace it he must continue flagging at least 500 feet beyond point where plug replaced, examining track for rocks or obstructions.

302 (I). Within automatic train control territory, when moving over a track which is not equipped with automatic train control circuits, the train or engine must be kept below a speed of twenty (20) miles an hour.

When an engine is running backward, or is pushing cars, it must proceed at a speed less than twenty (20) miles an hour, to avoid an automatic brake application.

302 (J). Trains entering automatic train control territory at Troutdale failing to receive green or red indication after passing off of cut-in circuit will pull down on the cut-out switch for thirty seconds and observe if black hand on duplex gauge starts downward. If cab indicator does not show a red indication or black hand on duplex gauge does not start downward when cut-out switch is down, automatic train control equipment on engine is inoperative and should be cut out. Train control must not be cut out until after consulting with train dispatcher.

302 (K). An engineman of a train entering a block as provided for by these rules, will be held responsible in case of accident caused by overtaking a preceding train. This does not relieve enginemen and trainmen from protecting their trains as required by the rules.

302 (L). When engines are double-headed in train control territory between The Dalles, Portland and Albina non-train control engine must be placed behind the train control engine.

302 (M). If the cab indicator does not show a red indication upon passing the "B" point of a Home Block Signal displaying "Stop" or upon passing a Home or Distant Block Signal displaying a restrictive indication, engineman must promptly report the fact to the train dispatcher from the first point of communication giving signal and engine number.

302 (N). Automatic train control equipment on an engine is locked or sealed in cut-in position. In case train control equipment of the engine fails, or track circuits become inoperative, pneumatic portion may be cut out. This will not be done until advising with train dispatcher.

302 (O). At the first available telephone booth or telegraph office, engineer will consult with dispatcher to ascertain if dispatcher has knowledge as to trouble with train control circuit or track being blocked and if dispatcher has no knowledge as to

track being blocked train may continue from that point at normal speed, being governed by automatic block signals.

302 (P). If after proceeding, cab indicator for a distance of five miles displays green indication continuously, engineer will cut in pneumatic equipment.

302 (Q). When train dispatcher has knowledge that train control power has failed he will so advise train and enginemen by train order; engineman will then cut out train control pneumatically. When cab indicator shows green, indicating that power is restored, engineman will then cut in train control pneumatically, and notify trainmen at first opportunity.

302 (R). Double-header cut-out cock on engines equipped with automatic train control must not be manipulated in order to forestall an automatic train control application.

302 (S). Station baggagemen at The Dalles Passenger Depot on engines run through The Dalles will unlock and cut out pneumatic portion of automatic train control equipment on eastward engines, and will cut in and lock pneumatic portion of automatic train control equipment on westward engines. After the equipment has been cut in, engineman will pull down on cut out switch in cab, and allow an automatic brake application. Enginemen will be held responsible for proper cutting in and cutting out of train control equipment at all times.

#### GENERAL TRAIN CONTROL RULES

302 (T). Train control wires are located on top cross arm of automatic block signal pole line between Portland and The Dalles and carry a current of 2300 volts. This current would be fatal to anyone coming in contact with it, and these wires must not be touched by persons or portable telephone and telegraph poles, nor by any other rods, tools or wires, etc., nor struck by booms of steam derricks, locomotive cranes, pile drivers, ditchers, etc.

#### De-energizing Line

302 (U). When employees are to perform any work where they are liable to come in contact with wires, or when necessary to perform work around or near train control wires with any machinery or appliances, which are liable to come in contact with them, train dispatcher must be notified. Train dispatcher will then notify signal maintainer and before such work is started, signal maintainer must de-energize the portion of line where work is to be performed. Person in charge must not start such work until he has received written instructions from the signal maintainer that he has de-energized the line.

#### Re-energizing Line

302 (V). The signal maintainer, after de-energizing line as above, must not re-energize the line until he has received written statement from the person in charge of the work that no more work will be performed where employees, machinery or appliances are liable to come in contact with train control wires. Signal maintainer, after re-energizing line, will so advise train dispatcher.

#### Trouble on Wires

302 (W). All employees are to report to the train dispatcher, as soon as possible, any unusual appearances or conditions of any of the wires or their supports, including collection of sleet on wires, so that any needed attention may be given without delay.

In case high voltage train control wires come in contact with, or are liable to come in contact with, cars or structures, have line de-energized by communicating with train dispatcher or any operator and a signal maintainer, pull wires clear of cars or structures, with pole or any other non-conductor device, and use Pyrene extinguisher if available to extinguish fire.

Employees are reminded that any wire or wires may become crossed with the high voltage wires and great care must be exercised to avoid coming in contact with any wires whatsoever which might cause a hazard.

The circuits are located between Portland and Troutdale with power feeding line at Mile Post 6 and between Troutdale and The Dalles with power feeding line at Hood River.

Operator at Hood River can have circuits between Troutdale and The Dalles de-energized. Towerman at East Portland can have circuits between Portland and Troutdale de-energized.

#### RATING OF ENGINES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of engine and tender, which the different classes of engines will haul in each direction between stations named, under favorable weather conditions. A deduction of ten per cent may be made for time freight trains.

Between stations for which no rating is shown maximum will apply.

TYPE OF ENGINE	NUMBERS (Inclusive)	HUNTINGTON-LAGRANDE									
		WESTWARD			EASTWARD						
		Huntington to Durkee	Durkee to Encina	Encina to Lun	Lun to Telocaset	Telocaset to LaGrande	LaGrande to Union Jct.	Union Jct. to Telocaset	Telocaset to Baker	Baker to Encina	Encina to Huntington
MC 57	26-41 32 464SD	3200	1600	6000	3200	6000	6000	2100	6000	2100	6000
TTT 63	29½ 30 288S	2350	1045	3900	2350	5000	5000	1485	5000	1485	5000
MT 73	29 28 230S	1700	700	3500	1700	3500	3500	1000	2900	1000	3500
MK 63	26 30 211SD	1825	725	3500	1825	3500	3500	1100	3300	1100	3500
MK 57	25¾ 30 207	1725	700	3500	1725	3500	3500	1000	2900	1000	3500
MK 57	23¾ 30 207SDB	1725	700	3500	1725	3500	3500	1000	3300	1000	3500
MK 63	26 30 211SB	1950	775	3500	1950	3500	3500	1250	3450	1250	3500
C 57	22 30 187	1265	560	3000	1265	3000	3000	815	2200	815	3000
P 77	25 28 167S	1190	525	2570	1190	2700	2700	760	2200	760	2700
P 77	25 28 178S	1070	475	2460	1070	2700	2700	690	2000	690	2700
T 63	22 28 160	980	440	2240	980	2700	2700	640	2000	640	2700
T 66	22 28 159	960	440	2050	960	2700	2700	640	2000	640	2700
P 77	22 28 149	960	440	2050	960	2700	2700	640	2000	640	2700

EXAMPLE: Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 80 inch strokes, and weighing 187,000 pounds on drivers.

C 57 — 187  
22 — 30

**EXPLANATION**  
"P"..... Pacific  
"T"..... Ten Wheel  
"C"..... Consolidation  
"MK"..... Mikado  
"MC"..... Mallet Compound  
"TTT"..... Two-Ten-Two  
"MT"..... Mountain

**RATING OF ENGINES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of engine and tender, which the different classes of engines will haul in each direction between stations named, under favorable weather conditions. A deduction of ten per cent may be made for time freight trains. Between stations for which no rating is shown maximum will apply.

TYPE OF ENGINE	NUMBERS (Inclusive)	LAGRANDE-UMATILLA-MESSNER									
		WESTWARD					EASTWARD				
		LaGrande to Hilgard	Hilgard to Kamela	Kamela to Umatilla Messner	Umatilla to Hinkle	Messner to Rieth	Rieth to North Fork	North Fork to Kamela	Kamela to LaGrande		
MC 57 26-41 32	3650 to 3864 3803 to 3805	3200	1800	6000	3750	6000	3200	1800	6000		
TTT 63 29 $\frac{1}{2}$ 30	5400 to 5414	2350	1045	5000	2420	4000	2350	1045	5000		
MT 73 29	7866 to 7869	1700	700	3500	1700	2750	1510	700	3500		
MK 63 26	2168-2167	1825	725	3600	1825	2850	1585	725	3600		
MK 57 28 $\frac{1}{4}$ 30	2100 to 2165 2103, 2138, 2147, Except S.D. E. Enga.	1700	700	3500	1700	2750	1510	700	3500		
MK 57 29 $\frac{1}{4}$ 30	2149, 2151, 2152, 2154	1700	700	3500	2000	3000	1510	700	3500		
MK 63 26	2168 to 2171	1950	775	3600	1950	3000	1600	775	3600		
C 57 22 30	730 to 768	1265	660	3000	1265	2200	1195	660	3000		
P 77 25	3218 to 3225	1190	525	2700	1190	2200	1090	525	2700		
P 77 28	3226 to 3227	1070	475	2700	1070	2000	920	475	2700		
T 63 22	1755 to 1760	980	440	2700	980	2000	850	440	2700		
P 77 25	178S	975	400	2700	975	2000	850	440	2700		
T 63 22	1760										
T 69 22	1754										
P 77 25	178S										
T 63 22	1760										
T 77 25	167S										
P 77 28	149S										
T 57 20	126										
C 57 22	187										

**EXPLANATION**

- "P".....Pacific
- "C".....Ten Wheel Consolidation
- "TT".....Mikado
- "MK".....Mallet Compound
- "T".....Two-Ten-Two Mountain

**EXAMPLE:** Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:

C 57 — 22 — 30 — 187

TYPE OF ENGINE	NUMBERS (Inclusive)	JOSEPH AND LA GRANDE										
		WESTWARD				EASTWARD						
		RIETH AND PILOT ROCK WESTWARD	WESTWARD	EASTWARD	EASTWARD	WESTWARD	WESTWARD	WESTWARD	WESTWARD			
T 63 20	1715 to 1726	625	625	1365	685	1365	1120	625	445			
T 57 20	1735 to 1736	700	700	1530	770	1530	1255	700	500			
T 69 22	1742 to 1754	700	700	2000	1500	2000	2000	1500	700			
T 63 22	1755 to 1760	800	800	2000	1900	2000	2000	1600	800			
T 77 25	3218 to 3225	800	800	1840	1000	1840	1840	1000	700			
P 77 28	3200 to 3217	800	800	1740	875	1740	1425	800	555			
T 57 20	1737 to 1741	1150	1150	2515	1925	2515	2330	1800	1015			
C 57 22	780 to 788											

**RATING OF ENGINES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of engine and tender, which the different classes of engines will haul in each direction between stations named, under favorable weather conditions. A deduction of ten per cent may be made for time freight trains. Between stations for which no rating is shown maximum will apply.

TYPE OF ENGINE	NUMBERS (Inclusive)	PORTLAND AND THE DALLEES										
		EASTWARD					WESTWARD					
		Albina to Hood River	Hood River to The Dalles	The Dalles to Dodson	Dodson to Albina via Kenton	The Dalles to Seufert	Seufert to Umatilla	Umatilla to Arlington	Arlington to The Dalles			
P 77 22	143S	1800	2040	1800	3185	1730	1200	2220	2700			
T 69 22	159	2000	2265	2000	3555	2010	2330	2490	3035			
T 63 22	162S	2000	2475	2000	3895	2200	2555	2690	3285			
P 77 25	167S	2100	2925	2100	3185	2320	2700	2850	3275			
C 57 22	190S	2600	2940	2600	4610	2650	3030	3200	3900			
MK 57 29 $\frac{1}{4}$ 30	207S	3200	4000	3400	5375	3050	4000	4000	5000			
MK 57 29 $\frac{1}{4}$ 30	207SDB	3915	4285	3915	6540	3725	4890	4890	6120			
TTT 63 29 $\frac{1}{4}$ 30	292SDB 301SDB	5190	5680	5190	8675	4940	6485	6485	8115			
MT 73 29	290S	3046	3655	3600	4570	3430	3920	4220	4980			

**EXPLANATION**

- "P".....Pacific
- "C".....Ten Wheel Consolidation
- "MK".....Mikado
- "TT".....Two-Ten-Two Mallet Compound
- "MT".....Mountain

**EXAMPLE:** Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:

C 57 — 22 — 30 — 187

TYPE OF ENGINE	NUMBERS (Inclusive)	AINSWORTH AND BEND								BIGGS AND SHANIKO				ARLINGTON AND CONDON				HEPPNER JCT. AND HEPPEL														
		EASTWARD				WESTWARD				EASTWARD		WESTWARD		EASTWARD		WESTWARD																
		Ainsworth to North Jet	North Jet to South Jet	South Jet to Madras	Madras to Bend	Bend to Ainsworth	Biggs to Thornberry	Thornberry to Sandon	Sandon to Valley	Valley to Shaniiko	Shaniiko to Gas Valley	Gas Valley to Shaniko	Grass Valley to Hay Canyon	Hay Canyon to Sandon	Arlington to Rock Creek	Rock Creek to Condon	Condon to Rock Creek	Rock Creek to Arlington	Hoppper to Lorington	Lorington to Hoppper												
T 63 20	1715 to 1726	690	987	555	745	1580	1870	1955	1870	210	290	415	370	815	370	315	180	980	890	810	625	590	740	725	695	770	870	950	980	870	1150	1125
T 57 20	1736 to 1736	740	1120	685	920	1955	1870	1955	1870	230	355	455	510	980	435	380	220	1210	1090	965	900	710	695	770	870	950	980	870	1150	1125		
T 64 15 $\frac{1}{2}$ -20 26	1730 to 1731	830	1070	655	880	1870	1870	1955	1870	265	425	545	610	1175	480	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
T 57 20	1741 to 1741	890	1180	720	970	2060	1870	1955	1870	280	375	480	540	1080	490	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
T 69 22	1742 to 1754	1075	1385	815	1100	2330	1870	1955	1870	265	425	545	610	1175	480	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
T 63 22	1755 to 1760	1160	1465	900	1200	2555	1870	1955	1870	290	465	600	670	1120	480	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
C 57 20 $\frac{1}{4}$ 30	710, 715, 718, 724, 719 to 723	1350	1505	885	1350	2375	1870	1955	1870	265	465	550	620	1305	480	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
C 57 20	725 to 729	1500	1730	1000	1500	3000	1870	1955	1870	345	550	700	790	1460	480	420	240	1250	1155	1015	1100	900	870	770	870	950	980	870	1150	1125		
C 57 22	730 to 768																															