

UNION PACIFIC RAILROAD COMPANY
Northwestern District

Oregon Division
Special Rules
No. 4

Effective Saturday,
November 1, 1941

Superseding Special Rules No. 3

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

P. T. MCCARTHY, Superintendent
M. C. WILLIAMS, General Superintendent

F. N. FINCH,
General Manager

H. M. TURNER,
Supt. Transportation

Serial

2 (B). In addition to employes enumerated in Rule 2. following employes must use watches that have been examined and certified to by a designated inspector:

Safety Agents
Trainmasters
Road Foremen of Engines

Station Agents
Operators
Assistant Yardmasters

Operators must set their clocks when Standard Time is transmitted.

At stations where there is not a standard clock, the watches of operators must be compared with the train dispatcher, before commencing each day's work.

Employes will be exempt from watch inspection and comparison when permanently assigned in offices where a standard clock is provided.

7 (B). At points where there are close clearances, train and yard men 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.

7 (C). When practicable, all signals by hand must be given on the engineman's side; flag and lamp signals (when not by hand), fuseses and torpedoes must also be placed on that side, but they must be respected when received from or found on either side.

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

Joseph Branch
Pilot Rock Branch
Heppner Branch
Condon Branch

Shaniko Branch
Tono Branch
Olympia Branch

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.

11 (B). A train finding a fusee burning yellow on or near its track must reduce speed and proceed at restricted speed for at least one mile.

The use of yellow fusees where color light signals are in use is prohibited.

11 (C). A train finding a fusee burning red on or near its track must stop before passing the fusee, extinguish it, and may then proceed at restricted speed for at least one mile.

14 (x). In case of necessity for transferring control of air brakes from one engine to another, enginemen will sound two short and one long blast of engine whistle and will be governed by Air Brake Rule 1050 (B).

14 (y). Referring to Rule 14(1). The sounds prescribed must be clear and distinct. The first of the long sounds to be started at such a point that the signal will be completed by ending the last sound immediately before reaching the crossing, prolonging it if necessary. The duration of the complete signal must be not less than ten seconds. To avoid unnecessary annoyance, the sounds should be no louder than necessary to give adequate warning to traffic in the vicinity of the crossing.

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

15 (A). The explosion of two torpedoes is a signal to immediately reduce speed and proceed at restricted speed for at least one mile.

15 (B). In placing torpedoes during cold weather or when there is a possibility of snow storms, in addition to placing torpedoes on the rail on engineman's side of the track, duplicate sets of torpedoes must be placed on the other rail directly opposite those normally required.

17 (B). The headlight must be displayed to the front of trains by night and during heavy storms or fogs of sufficient intensity to obscure the view.

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;

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

While standing on main track awaiting arrival of an approaching train that is to take siding, but not until after approaching train dims its headlight as a signal for the standing train to do likewise.

17 (D). On streamline and gas-electric trains, the headlight must be burning dim during daylight hours.

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

19 (C). A train with engine equipped for display of indicators must not leave its initial station, except between Portland and Seattle, without the train number being properly displayed in the indicators. When the number of a train is changed, the indicators must be changed to correspond. Before making such change, the safety of other trains must be fully considered.

Common Standard—Single Row—Indicator

12 for Train No. 12

1-12 for First 12

X-162 for Extra 162.

Unless otherwise provided, engine crews arriving at terminals must not remove the indicators until the train has been delivered to connecting crew or is clear of the main track and switch is closed.

19 (D). When passenger trains, except those with electric markers, are being switched from the rear, the markers should be removed to prevent obscuring view of enginemen. With trains having electric lighted markers, the lights should be turned off while train is being switched from the rear.

26 (A). 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.

26 (B). When a carman is accompanying equipment, or at points where work is of emergency character and Rule 26 cannot be complied with, protection must be arranged as follows: Before carman goes under or between cars, yard or trainman must give hand or lamp stop signal and receive whistle acknowledgment from engineman.

Train must not be moved, nor air brakes applied or released, until carman is out from under or from between cars and yard or trainman so indicates to engineman.

The yard or trainman must remain with the carman as long as carman works under or between cars, and the yard or trainman will be responsible for the carman's protection.

26 (C). On a streamline train, when it is necessary for any employe to go underneath any part of the train, a chain must be placed securely on each side of a traction wheel, for blocking. In addition, an understanding must be had with the engineman and he must not move the train until the employe in charge of the work personally reports back to him. A 90-pound brake application must be maintained while the work is being done.

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.

31 (A). Enginemen will give two long, one short and one long sounds of engine or motor whistle when approaching a train which is stopped on the opposite track on two or more tracks, and when approaching a train which is on a siding, on single or two or more tracks. On two or more tracks, 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.

31 (R). Ordinance of the City of Pendleton makes it unlawful for any person operating a locomotive within the city limits to sound the whistle thereof except to prevent accident not otherwise avoidable or to signal flagman.

83 (C). Clearance, Form 2643, will be used instead of Clearance Form A.

83 (D). Unless otherwise instructed, when a train is relieved by train order from checking a train register for overdue trains, the conductor will register by registering ticket, Form 2642, per Rule 83 (A), at that station.

83 (R). Clearance must be received as follows:
 Pendleton—all first class trains;
 Umatilla—all trains;
 Black River—all westward trains;
 Centralia—all westward Grays Harbor Branch trains originating at Blakeslee Junction;
 Centralia—all eastward Tono Branch trains originating at Wabash;
 Independence—all westward C. M. St. P. & P. trains originating at Helsing Jet.

Northern Pacific clearance must be received as follows:
 Reservation—all eastward second class and extra trains passing through Tacoma;
 Tacoma, N. P. Fifteenth Street telegraph office—all eastward second class and extra trains originating at Tacoma.

Trains are not required to receive a clearance as per Rule 83 (B) as follows:
 Joseph—all regular trains, when no operator on duty;
 East Olympia—all westward trains Olympia Branch;
 Argo—all westward C. M. St. P. & P. passenger trains.

83 (S). Trains must ascertain whether all superior trains due have left as follows:
 Tacoma, N. P. Fifteenth Street telegraph office—all eastward second class and extra trains originating at Tacoma;
 Reservation—all eastward second class and extra trains passing through Tacoma.

Information required by Rule S-83 need not be received as follows:

Peninsula Jet.—all westward trains and engines, but may proceed Peninsula Jet. to St. Johns Jet. on clear interlocking signal indication;
 Argo—all westward C. M. St. P. & P. passenger trains, but may proceed Argo to Seattle on clearing interlocking signal indication at Argo, running with current of traffic at restricted speed.

Conductors of the following trains will register by registering ticket, Form 2642, per Rule 83 (A), when operator on duty:
 Rieth—all first class trains;
 Black River—all trains.

Train registering exceptions:
 Albina—only trains which originate or terminate at that station will register;
 Argo—only trains which originate or terminate in U. P. yard at that station will register;
 Centralia—Tono Branch trains originating or terminating at Wabash must register in U. P. train register located in N. P. telegraph office;
 Centralia—Grays Harbor Branch trains originating or terminating at Blakeslee Jet. must register in U. P. train register located in N. P. telegraph office;
 Vancouver—Fifth subdivision trains originating or terminating at North Portland Jet. must register in U. P. train register located in S. P. & S. telegraph office.

83 (T). Trains moving between Nordeen and Ross, between The Dalles and Crates, and between Seattle and Argo must identify trains between those stations. Trains displaying signals must sound one long and two short blasts of engine whistle to all trains and engines on both tracks between those stations.

83 (U). Movement of C. M. St. P. & P. and U. P. trains and engines between Helsing Junction and Independence is governed by automatic block signals. When these signals indicate proceed, trains or engines may proceed regardless of first class trains.

When signal at junction switch at Helsing Junction fails to indicate proceed for westward C. M. St. P. & P. trains after junction switch is opened, in addition to complying with Rule 509, Grays Harbor Branch main track must not be occupied until protection in accordance with Rule 99 is afforded against westward trains on Grays Harbor Branch.

84 (A). On freight trains approaching sidings, trainmen must observe both sides of their train, and if everything is all right, a trainman will, if practicable, signal engineman to proceed. Upon receipt of such signal the engineman will sound two long blasts of the engine whistle.

84 (B). A trainman must alight from train at all stops, and give proceed signal when ready to depart. This must be done by the conductor when practicable.

The communicating signal system, instead of hand signals, must be used for the purpose of starting streamline trains.

86 (A). Work trains handling any roadway equipment must clear the time of streamline trains not less than thirty minutes.

93 (A). First class trains must move within yard limits at restricted speed.

93 (B). Referring to Rule 93. During foggy or stormy weather, trains and engines must afford proper flag protection, regardless of whether a first class train is due or not.

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

Huntington	The Dalles	Elgin	Biggs (Shaniko Branch only)
Durkee	Hood River	Pilot Rock	Aberdeen, including Cosmopolis
Encina	Albina (embracing territory from 200 ft. east of east switch Graham to North Portland Junction and to M. P. 10, Kenton Line, including East Portland, Albina and Kenton)		Montesano including South Montesano
Baker			South Elma
Telocaset			Independence
La Grande			Helsing Jet.
Hilgard			Olympia
Kamela	Troutdale (Kenton Line only)		East Olympia
Meacham	Tacoma	Heppner	Wabash
Gibbon	Black River	Heppner Jet. (Heppner Branch only)	Tono
Pendleton, including	Argo		
Rieth	Seattle		
Umatilla	Joseph	Condon	
Arlington	Enterprise	Shaniko	
	Wallowa		

94 (A). When a train is delayed, trains following must be allowed to pass as promptly as possible, and the conductor and engineman will be held jointly responsible for delays to following trains.

98 (B). After stopping at a railroad crossing not protected by interlocking, or automatic interlocking signals, when the view is obstructed so that at least 200 feet of the other railroad on each side of the crossing cannot be seen from the point where the train is stopped, 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, 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 before proceeding.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
Pendleton.	Washington Division.		Westward movements from Washington Division between junction and depot is authorized by proceed indication of automatic block signal. When signal at junction switch indicates proceed, trains and engines may proceed regardless of first class trains. When signal at junction switch fails to indicate proceed for westward movement after junction switch is opened, in addition to complying with Rule 509, Oregon Division main track must not be occupied until protected in accordance with Rule 99 against westward Oregon Division trains.
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 Subdivision main track until the approaching train has stopped.
Umatilla. (M.P. 133.9)	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.	U. P.	All trains and engines must approach prepared to stop before passing over crossing, expecting to find crossing occupied.
East Portland.	S. P. and S. P. & S.		Interlocking.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
East Portland. (S.E. Second Ave. between S.E. Salmon and S.E. Madison Sts.)	S. P. & S.	U. P.	All trains and engines stop before crossing.
East Portland. (S.E. Second Ave. and S.E. Morrison St.)	P. E. P.	U. P.	All trains and engines stop before crossing.
Peninsula Jct.	Troutdale Line.		Interlocking.
North Portland Jct.	S. P. & S.		Interlocking.
Blakeslee Junction.	C.M.St.P.&P.-N. P.		Automatic Interlocking.
Helsing Junction.	C.M.St.P.&P.	U. P.	Automatic Block Signals.
Schafer Bros. Crossing.	Schafer Bros. Logging Ry.	U. P.	Cabin Interlocking.
South Aberdeen. (Donovan Mill)	N. P.	N. P.	All trains and engines stop before crossing.
Olympia. (Jefferson and 7th Sts.)	N. P.	U. P.	All trains and engines stop before crossing.
Tacoma. (11th St.)	City Ry.	U. P.	All trains and engines stop before crossing.
Tacoma. (St. Paul Ave.)	City Ry.	U. P.	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.
Reservation.	N. P.		Interlocking.
Black River.	C.M.St.P.&P.-P. C.-N. P.		Interlocking.
Argo.	N. P.-C. M. St. P. & P.-P. C.		Interlocking.
Seattle. (Spokane and 5th Aves.)	G. N.		All trains and engines stop before crossing.
Seattle. (Spokane and Whatcom Aves.)	N. P.		All trains and engines stop before crossing.

Location	Railroad Crossed, or, Junction With	Trains Which Have Precedence	How Governed
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.-C. M. St. P. & P.		All trains and engines stop before crossing.

98 (T). 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 tender, 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. During certain hours each day 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 during such hours, engineman will sound one long, one short and one long blast of engine whistle to call bridge tender on duty, and if bridge tender does not respond promptly person in charge of train or engine will send a member of train or engine crew to bridge-tender's house to notify him that bridge is to be used.

98 (U). 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 (C). In complying with Rule 99, flagman unless sooner recalled must go back one mile from rear of his train. One-half mile from the rear of his train he will place two torpedoes on the rail, continuing back one mile from rear of his train he will place two torpedoes on the rail. He may then return to the two torpedoes one-half mile from rear of his train where he must remain until relieved by another flagman or is recalled by the whistle of his engine.

When conditions, including foggy or stormy weather, obscure curves or descending grades, require that the distance be increased to insure full protection, the flagman will increase the distance, placing two torpedoes at every one-fourth mile.

After the flagman has the necessary torpedoes placed and has returned to the two torpedoes one-half mile from his train, when he is recalled by the engine whistle he may return if safety to his train will permit, removing the two torpedoes from rail at that point. When the conditions require he will leave a lighted fusee, and not remove the two torpedoes at that point.

Should a train be seen or heard approaching before the flagman has reached the required distance, he must at once place two torpedoes on the rail, and if it is by night or during foggy or stormy weather, he must display a lighted red fusee in addition, and continue in the direction of the approaching train and flag it with hand signals.

If the flagman is recalled before reaching the required distance, he will, if necessary, place two torpedoes on the rail by day, and by night or during foggy or stormy weather display a lighted red fusee in addition, to protect his train while returning.

The following signals will be used by flagmen:

Day signals—A red flag, not less than ten torpedoes, three red and three yellow fusees.

Night signals—A red light, a white light, not less than ten torpedoes, three red and three yellow fusees.

99 (D). The duty of flagmen on passenger, freight and mixed trains is to enable prompt and immediate compliance with Rule 99 and Special Rule 99(C). While train is in motion or is standing at points where flag protection is or may be required,

flagman must not be called upon to perform any duties other 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 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 (E). To relieve a train from protecting against following extra trains, the following form will be used:

All eastward (or westward) extra trains except Extra 77 East (or west) wait at H until four ten 410 PM

Extra trains named except Extra 77 East (or west) must not pass the designated point before the time named in the order.

Extra 77 East (or west) is relieved from protecting against following extra trains at any point beyond the designated station until the time named in the order.

When a regular train is to be relieved from protecting against following extra trains the words "except Extra 77 East (or west)" will be omitted.

99 (S). Referring to Rules 99, 99 (A) and 99 (C).

Enginemen on passenger trains standing at passenger station at Hood River and The Dalles will not whistle signals for flagmen to protect rear of train, but when on the time of a first class train, when ready to proceed they will recall the flagmen by engine whistle.

When not on the time of a first class train or otherwise not required to flag, conductors will recall flagmen by hand or lantern signal. These instructions do not in any way relieve conductors or flagmen of the responsibility of protecting trains as required by Rules 93 and 99.

101 (C). Trains must be handled carefully where sand is blowing, when weather is foggy or stormy and at points where there is possibility of track being obstructed, and no attempt should be made to recover lost time under such conditions.

101 (D). Referring to Rules 101, 101 (A) and 101 (B). When a train is flagged by a track patrolman in case of storm or indication of storm or high water, patrolman must continue to patrol track ahead of train, if necessary, through the storm area.

101 (E). Trains must not pass over broken rails on curve until joint bars have been placed on both sides of the rail and securely fastened. In case of square break on straight track, trains must stop not less than 200 feet from the break and may then pass over the break not exceeding six miles per hour.

102 (B). When for any reason an engine leaves its train or part of its train behind, and then passes any switch where it would be possible for another train or engine to enter that track between the front and rear portions, the engine 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 the return movement has been authorized and protected by the train dispatcher.

103 (B). 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;

103 (B).—Continued.

Where the movement is over a crossing protected by a crossing watchman on duty. (See Spl. Rule 103-D.)

- At Portland, over street crossings on East Second Street, Albina, East Portland and Kenton;
- At Umatilla, over public crossing just east of M.P. 184;
- At La Grande, over Fir Street and Greenwood Street crossings;
- At Seattle, over Spokane Street crossing, Harbor Island;
- At Seattle, over Spokaue Street crossing, Alaskan Way.

Where through movement is made:

- 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;
- Between Argo and Seattle, passenger station;
- Along East Marginal Way, Seattle;
- Between Argo and local yard, Seattle.

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 deadwood, drawbars, brake beams, journal boxes, or brake wheels;
- On ends of cars containing loads which may shift.

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

103 (D). 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 by gates in operation, 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 tender 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, trainman must not give signal for highway traffic to come ahead.

103 (R). At Fifteenth Street, Tacoma, all trains and engines must stop and a member of the crew must be sent ahead to act as crossing watchman.

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

104 (B). 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. (See Rule 105-R).

104 (C). On all cross-overs between a main track and any other track, both switches must be equipped with switch locks. All switches equipped with switch locks must be locked while trains are passing over them and must be left locked after they have been used.

Switches must not be handled by unauthorized persons.

104 (D). If a switch lock is missing or found to be defective a new one must be supplied.

104 (E). If a rigid split switch is run through it is thereafter unsafe and must be protected.

If an engine or car is run partly through a split switch, the entire movement must be continued; to reverse would result in derailment.

Split switches damaged in this way must be spiked unless the section foreman is on hand and takes charge.

104 (F). When a train or engine is on a siding or other track, waiting to be met or passed by another train, employes must not take position in the vicinity of the main track switch, and must not be between the fouling point and the switch, until the approaching train or trains have passed.

If a person, in violation of Rule 104 (A), is observed near a switch leading from a track a train is using, the train must be brought to a stop and wire report made to superintendent.

104 (R). Switches will be set normally at:

- Nordeen (spring switch), at east end of two main tracks—for westward trains;
- Ross (spring switch), at west end of two main tracks—for eastward trains;
- Meacham, Casey Mill track switch—for spur;
- Hinkle, junction switch—for line via Munley;
- Umatilla, wye switch connection with Oregon Division main track—for wye;
- Messner, junction switch—for line via Munley;
- Crates (spring switch), at west end of two main tracks—for eastward trains;
- Kenton, cross-over switch—for extension;
- Tacoma Jct., junction switch—for C. M. St. P. & P. track;
- Joseph, main track switch east leg of wye—for wye;
- Joseph, switch at stem of wye—for east leg of wye;
- Enterprise, west switch of cross-over between main track and house track—for house track;
- Aberdeen, switch at end of two main tracks, 250 feet east of depot—for eastward trains;
- South Montesano, wye switch on Montesano Branch—for east leg of wye;
- Helsing Jct., junction switch—for U. P. main track.

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

Note.—The designation "Str." includes all streamline trains.

The designation "Psgr." includes all other passenger, mail and express trains.

The designation "Frt." includes freight trains, mixed trains and light engines with or without cabooses.

When steam engines are used on streamline trains, unless otherwise provided, the speed specified under "Psgr." must not be exceeded.

When a freight engine is used in passenger service on branches, the speed specified under "Frt." must not be exceeded.

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frt.	
At any point.	90	60	40	
At any point.		60	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.

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frts.	
At any point.		50	40	With Simple Mallet engines.
At any point.		60	40	With Simple Mallet 3900 class engines.
At any point.		40	40	With Mallet engines.
At any point.			35	Light engines.
At any point.	20	20	20	Engines running backward, with or without cars.
At any point.	30	30	30	Moving against current of traffic.
At any point.			25	With derricks, cranes, hoists, ditchers, steam shovels, rotary snow plows, pile drivers and Rodger or wooden Hart ballast cars loaded with gravel.
At any point.			15	Jordan spreaders and other snow machines of spreader type, when in operation.
At any point.		50		Motor trains.
At any point.			20	Trains handling logs, unless cars are staked and wired in accordance with A.A.R. rules.
Through truss bridges.			6	Trains handling logs, unless cars are staked and wired in accordance with A.A.R. rules.
At any point. Main Line.			30	Trains handling scale test car.
Branch Lines.			25	
At any point.		35	35	With C. M. St. P. & P. Class L engines.
At any point.		35	35	With C. M. St. P. & P. Class K 1 engines, equipped with swing motion trucks.
At any point.		25	25	With C. M. St. P. & P. Class K 1 engines, equipped with rigid trucks.
At any point.		35	35	With C. M. St. P. & P. freight engines with single trucks when handling or helping passenger trains.
Within yard limits: Main Line.	50	40	25	Speed must be as much slower as conditions may require.

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frts.	
Within yard limits: Branch Lines: Joseph Branch.		30	15	Speed must be as much slower as conditions require.
Heppner Branch.		30	15	
Condon Branch.		25	15	
Shaniko Branch.		30	15	
Grays Harbor Branch.		30	25	
Olympia Branch.		30	15	
Using cross-overs or turn-outs.	15	15	15	
On sidings and side tracks.	15	15	15	
Interlocking.	15	15	15	
Railroad crossings at grade.	15	15	15	
On 4 degree curves.	60	50	40	
On 5 and 6 degree curves.	50	40	30	
On 7 and 8 degree curves.	45	35	25	
On curves of 7 degrees and over.		25	20	With 2-10-2 class engines.
On 9 and 10 degree curves.	40	30	20	
Over spring switches.	15	15	15	When using turn-outs.
Over spring switches.	20	20	20	When not using turn-outs, but where switch points will be caused to oscillate under such movement.
Over spring switches.	20	20	20	When not using turn-out, but when movement is over facing point switch.
Through cross-overs, turn-outs and on wyes.			5	With 9000 class engines.
First Subdivision. Lime, high line track and connections.			10	
Leonard to Durkee.			25	Descending grade.
Pleasant Valley to Leonard.	50	40	20	Descending grade.
Pleasant Valley to Leonard.			15	Trains with all ore, bauxite, wheat or gravel, descending grade.

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frnt.	
Between Pleasant Valley and Quartz.	60	50	25	Descending grade.
Baker.	15	15	15	Over street crossings within city limits.
Telocaset to Union Jet.	55	45	25	Descending grade.
Second Subdivision. Between Hilgard and Huron.	50	40	20	Descending grade.
Between Hilgard and Huron.			15	Trains with all ore, bauxite, wheat or gravel, descending grades.
Huron to Duncan.			25	When retaining valves in use.
Duncan, wye.			8	With Mallet engines.
Pendleton.	12	12	12	Over Thompson, Main and Aura Sts.
Pendleton.	20	20	20	Over other street crossings within city limits.
Third Subdivision. Echo.	30	30	30	Over first road crossings east and west of depot.
Echo, mill spur and wool warehouse.			6	With Mallet and 2-10-2 engines.
Hermiston.	15	15	15	Over road crossing east end of depot.
Hermiston, on house track west of McNaught warehouse.			6	With Mallet and 2-10-2 engines.
Hermiston, Standard and Union Oil spurs.			6	With 2100 class engines.
Umatilla, wye.		10	10	
Umatilla.		25		Track No. 7.
Between Dillon and Umatilla, and between Hinkle and Messner, except on curve at Heppner Jet. depot.	90	65		Including Mikado class engines with 63-inch drivers handling first class trains.
Arlington, water tank.	40			On curve.
The Dalles.	12	12	12	Over street crossings.
Fourth Subdivision. Troutdale.		30		Nos. 12 and 18, to permit exchange of mail.

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frnt.	
Between Kenton and Troutdale.		45	35	
Tunnel, between Peninsula Jet. and St. Johns Jet.		40	25	
East Portland to Graham.		20		With helper on rear of train.
East Portland.			8	Entering East Portland Interlocking from S.E. Second Ave., No. 10 lead, S. P. yard or back track.
East Portland.		5	5	With 2500 class engines, except 2528 and 2529, around 16 degree curves east end Willamette River Bridge.
East Portland.		8	8	Over frogs and crossings east end of Willamette River Bridge with 7000 class engines.
Between East Portland and Albina.		8	8	Curve at Globe Mill.
Between Portland and Albina.	8			Backing up.
Portland.	10	10	10	Over street crossings.
Over crossings between Willamette River Bridge and Albina (including Knott St.).	12	12	12	
Fifth Subdivision. Over slip switch, Lucile Ave., Seattle.		10	10	With 7800 class engines.
On curves at Dearborn Viaduct, Seattle.		8	8	With 7800 class engines.
Joseph Branch. Between La Grande and M.P. 25.		35	30	
Between M.P. 25 and M.P. 55.		30	25	
Between M.P. 55 and M.P. 72.		35	30	
Between M.P. 72 and Joseph.		30	25	
Pilot Rock Branch. At any point.		15	15	

Location	Maximum Speed Miles per Hour			Remarks
	Str.	Psgr.	Frst.	
Heppner Branch. At any point.		30	25	
Between Heppner Jet. and M.P. 23.		35	25	
Condon Branch. At any point.		25	25	
Between Speece and Mikkalo.			15	On descending grades.
Between Barnett and Rock Creek.			15	On descending grades.
Shaniko Branch. At any point.		30	25	
Between Shaniko and M.P. 39.		25	15	
Between M.P. 33 and Moro.		30	20	On descending grade.
Between Hay Canyon and Sandon.		30	20	On descending grade.
Between Wasco and Thornberry.		30	20	On descending grade.
Between Thornberry and Biggs.		20	10	On descending grade.
Grays Harbor Branch. At any point.		45		Motor trains.
At any point.		40	35	
At any point.			25	Trains handling rock.
Aberdeen.		20	20	Within city limits.
Aberdeen.		10	10	Over street crossings.
Cosmopolis.		20	15	Within city limits.
Cosmopolis.			8	With logs within city limits.
Blue Slough.			6	On rollways.
Tono Branch. At any point.		25	15	
Olympia Branch. At any point.		35	25	

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

105 (S). Time-table shows stations where eastward and westward sidings are located. Eastward siding is the siding located farthest east, and westward siding is the siding located farthest west, except at Baker, eastward siding is the siding located farthest west, and westward siding is the siding located farthest east.

At Meacham, westward siding, known as No. 1 track, is the siding located next to main track; eastward siding, known as No. 2 track, is the second track from main track.

At Gibbon, eastward siding, known as No. 1 track, is the siding next to main track; westward siding, known as No. 2 track, is the second track from main track.

When necessary to take siding at Hood River, eastward passenger, mail and express trains will use cross-over from main track to siding.

106 (A). Where the term "engineman" appears in special rules or the Consolidated Code of Transportation Rules it also applies to motorman.

D-151 (R). At points shown below trains and engines may move against the current of traffic without being preceded by a flagman, except when on the time of a first class train, or when the view is obscured by weather or other conditions:

Kamela—within yard limits;

The Dalles—between tie plant switch at east end of yard and signal 838, approximately 300 feet west of cross-over west of passenger station;

On parallel tracks between Portland and East Portland or Harding Street, yard engines and light engines only.

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.

204 (B). The rear trainman must be provided with copies of train orders and clearances.

208 (B). When a train's superiority is restricted at the point where it is to receive the order, except at initial stations, the fact must be stated in the order and special precautions must be taken to insure safety; it must be on "31" form, and it must not be made "complete" to the train which is being advanced until the operator has placed two torpedoes on the rail not less than 1000 feet from the train order signal in the direction of the restricted train, and the train dispatcher has assurance that this has been done. The train which is being advanced must approach carefully, expecting to find the main track occupied.

209 (B). Operators must not use typewriters in writing train orders or clearances.

220 (B). A slow order issued to a conductor or engineman continues in effect to them, although the schedule or section number or the running order of their train be changed.

221 (E). Unless some form of block signals is used, operators must space trains ten minutes apart, using the train order signal or clearance for that purpose.

When the clearance is delivered before the expiration of the ten minutes the operator must write on it the time the train may go in the following form, in the margin of the clearance: ". (Train Number) may go at (Time) M," and conductors and enginemen must respect this time.

509. The indication of signals shown under Figure 501 AA in Consolidated Code is changed to "Stop" and name changed to "Stop Signal". Consolidated Code Rules 508(C), 509(A) and 509(B) are superseded by the following:

When a train is stopped by a stop signal (see Figures 501 A and 501 AA), it may proceed when the signal changes to an approach indication (see Figure 501 B), or to a proceed indication (see Figure 501 C); or—

(a) On single track, a flagman must be sent ahead immediately, looking out for a train, obstruction, broken rail, switch not properly lined, slide warning fence plugs, or anything that may affect movement of train. The train must wait five

Continued on page 10.

509.—Continued.

minutes after the flagman has started, then proceed at restricted speed through the entire block to the next home signal, prepared to stop short of train, obstruction, or switch not properly lined, and be on lookout for broken rail, or anything that may affect movement of train. If a point is reached from which track ahead is seen to be clear and the signal next in advance is in plain view, flagman may be picked up and train proceed at restricted speed to the next home signal; except that flagman must continue to precede the train outside of yard limits at night.

(b) On single track, after stopping, if the track ahead is seen to be clear and next signal in advance is in plain view, two long blasts of engine whistle must be sounded, and train may proceed at once at restricted speed through the entire block to the next home signal, without sending flagman ahead; except that flagman must be sent ahead outside of yard limits at night.

(c) On two or more tracks, after stopping, two long blasts of engine whistle must be sounded, and train may proceed at once at restricted speed through the entire block to the next home signal.

509 (D). When a streamline train or 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, after placing two torpedoes immediately at rear of train, it may proceed at restricted speed without sending a flagman ahead, prepared to stop short of train, obstruction, or switch not properly lined, and be on lookout for broken rail, or anything that may affect movement of train.

509 (E). When a train is stopped by a block signal at a meeting or passing point under conditions requiring a flagman to be sent ahead to comply with Rule 509, 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 restricted speed without sending a flagman ahead, prepared to stop short of train, obstruction, or switch not properly lined, and be on lookout for broken rail, or anything that may affect movement of train.

509 (F). Where a flagman is preceding train in compliance with Special Rule 509, flagman in addition to looking out for obstruction, train in the block, etc., should watch rock protection fence and if plug is found pulled with no obstruction on the track, should if possible replace the plug, conductor to make report from first open telegraph office.

509 (R). Upper arm of interlocking signal located just east of junction switch at Troutdale governs westward movement via Graham and lower arm governs westward movement via Kenton. Proceed indication of interlocking signal located just west of junction switch will authorize eastward trains from Kenton to proceed to telegraph office.

520. If a block signal fails to display its most restrictive indication when a train enters a block, thus giving a "false-clear" indication, a member of the crew must be left at the signal; the superintendent and the train dispatcher must be notified from the first available point of communication; except that a light engine, or motor train with only one trainman, need not leave a man at the signal.

The employe 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.

672 (R). Interlocking signal at Schafer Bros. Crossing, Grays Harbor Branch, will automatically change from "Stop" to "Proceed" upon approach of train if crossing is not occupied. If signal fails to change to proceed 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 interlocking under flag protection at restricted speed.

672 (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 before handling hand operated switches or elec-

trically 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 operator is unable to clear signal due to interlocking failure or other cause, he must communicate with dispatcher who may authorize train or engine to proceed under flag protection through that portion of interlocking 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 interlocking 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 restricted speed. Flagman before reporting track apparently clear for use by train or engine must examine all switches and derails within limits of portion of interlocking through which it is necessary to flag.

673 (R). To indicate the route to be used through interlocking, the following whistle signals will be used: (The signals prescribed are illustrated by "o" for short sounds; "—" for long sounds).

At East Portland:

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

At St. Johns Jct.:

For North Portland Jct.....	—
For Kenton.....	— o
For St. Johns.....	o —

At Peninsula Jct.:

As westward trains or 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.....	—
For tunnel and yard lead to Albina.....	— o

At Argo:

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

700. Employes who are dishonest, immoral, quarrelsome or otherwise vicious will not be retained in the service.

701 (A). Each employe governed by Hours of Service Law must notify proper 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.

701 (B). Operators governed by Hours of Service Law must not change hours, or work at any time outside of assigned hours, without authority from the chief dispatcher.

701 (R). Allowance for empty and underloaded cars as indicated below must be reported as required by Instruction 8 on Form 1216, "Conductor's Car and Tonnage Report".

	For each empty or loaded car weighing less than 40,000 pounds (including light weight of car)	For each empty or loaded car weighing between 40,000 and 50,000 pounds (including light weight 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 "	
Primo to Cosmopolis	3000 "	
Hoquiam to Cosmopolis	3000 "	
All other	6000 "	3000 lbs.

711 (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;

Employees with passes when traveling on company business;

Passengers with revenue tickets when presented for passage on trains 313 and 314 on Bend Branch.

Passengers must not be loaded on freight trains until train is ready to leave. Stockmen must be given an opportunity to board caboose or drover car while train is standing.

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.

727 (A). Rule 727 is modified as follows:

When a red flag or red light is found between the rails of the track, or on the engineman's side of track, the train must stop and after a reasonable effort has been made to ascertain the cause, if it is found that there is no one there to explain, a flagman must be sent ahead and the train may proceed following the flagman very carefully. After following the flagman for not less than one-fourth mile, if conditions are such that it can be plainly seen that it is safe for the train to proceed, the flagman may be picked up and the train proceed at restricted speed for at least one mile. If it cannot be plainly seen that it is safe for the train to proceed, the train must follow the flagman as far as conditions may require. If the red flag or red light is on the track it must be replaced.

When a light engine or motor train with only one trainman is stopped by a red flag or a red light, it may proceed at restricted speed without sending a flagman ahead, prepared to stop short of train, obstruction or switch not properly lined, keeping a close lookout for broken rail, flood-damaged track or bridge or anything that may affect movement of train.

728 (A). Rule 728 is modified as follows:

The red flag by day, and in addition the red light at night, will be placed twenty instead of fifty rail lengths from the point of obstruction. The flagman will be located with the yellow signals, one mile beyond the red signal. On the approach of a train the flagman will display the yellow signals, which must be acknowledged by the engine whistle. In territory designated by the superintendent, the yellow signals will be placed as prescribed and the flagman will not be required except during foggy or stormy weather.

729. Employees must not ride on pilot of an engine nor go between moving engines or cars to uncouple, open, close or arrange knuckles of couplers, or to manipulate other equipment. They must not remove any of the appliances of an engine or car for convenience in switching which would endanger the safety of themselves or of others, nor follow other dangerous practices.

801 (R). There are close clearances above and at the side of main tracks as shown below, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks:

Location	Structure nr Obstruction	Clearance of engine or car is close at—
At all stations.....	Mail cranes.....	Side.
First Subdivision		
M.P. 390.....	Bridge.....	Side.
M.P. 388.44.....	Bridge.....	Side.
M.P. 388.40.....	Bridge.....	Side.
M.P. 387.75.....	Bridge.....	Side.
M.P. 387.36.....	Bridge.....	Side.
M.P. 386.92.....	Bridge.....	Side.
M.P. 386.62.....	Bridge.....	Side.
M.P. 385.95.....	Bridge.....	Side.
M.P. 385.19.....	Bridge.....	Side.
M.P. 385.02.....	Bridge.....	Side.
Lime.....	Overhead bridge.....	Side.
M.P. 384.42.....	Bridge.....	Side.
M.P. 383.27.....	Bridge.....	Side.
M.P. 382.02.....	Bridge.....	Side.
M.P. 381.9.....	Overhead bridge.....	Top.
M.P. 381.66.....	Bridge.....	Side.
M.P. 381.41.....	Bridge.....	Side.
M.P. 380.44.....	Bridge.....	Side.
M.P. 380.22.....	Bridge.....	Side.
M.P. 379.62.....	Bridge.....	Side.
M.P. 378.80.....	Tunnel No. 6.....	Side.
M.P. 378.75.....	Bridge.....	Side.
M.P. 378.19.....	Bridge.....	Side.
M.P. 377.15.....	Bridge.....	Side.
M.P. 376.84.....	Bridge.....	Side.
M.P. 376.11.....	Bridge.....	Side.
M.P. 375.62.....	Bridge.....	Side.
M.P. 374.80.....	Bridge.....	Side.
M.P. 374.52.....	Bridge.....	Side.
M.P. 373.90.....	Bridge.....	Side.
M.P. 373.76.....	Bridge.....	Side.
M.P. 373.00.....	Bridge.....	Side.
M.P. 372.91.....	Bridge.....	Side.
M.P. 372.00.....	Bridge.....	Side.
Durkee.....	Stand pipe.....	Side.
Durkee.....	Water tank spout.....	Side.
M.P. 366.74.....	Bridge.....	Side.
M.P. 365.14.....	Bridge.....	Side.
M.P. 362.11.....	Bridge.....	Side.
M.P. 361.64.....	Bridge.....	Side.
Pleasant Valley.....	Water tank spout.....	Side.
Pleasant Valley.....	Coal chute.....	Side.

Location	Structure or Obstruction	Clearance of engine or car is close at—
M.P. 346.7	Bridge	Side.
M.P. 344.23	Bridge	Side.
M.P. 343.94	Bridge	Side.
M.P. 342.93	Bridge	Side.
M.P. 331.32	Bridge	Side.
North Powder	Overhead bridge	Top and side.
North Powder	Water tank spout	Side.
M.P. 317.26	Tunnel No. 5	Top and side.
Telocaset	Water tank spout	Side.
M.P. 312.07	Overhead bridge	Side.
Union Jet	Water tank spout	Side.
La Grande (Spruce St.)	Underpass handrail	Side.
Second Subdivision		
La Grande (Second St.)	Viaduct	Top.
M.P. 288.02	Bridge	Side.
Hilgard	Water tank spout	Side.
M.P. 281.29	Bridge	Side.
M.P. 276.09	Bridge	Side.
M.P. 276.00	Bridge	Side.
Motanic	Water tank spout	Side.
Kamela	Water tank spout	Side.
Kamela	Coal chute	Side.
Meacham	Water tank	Side.
M.P. 264.03	Tunnel No. 4	Top and side.
M.P. 252.52	Bridge	Top.
M.P. 251.18	Bridge	Side.
Duncan	Water tank spout	Side.
M.P. 238.67	Bridge	Side.
Gibbon	Water tank spout	Side.
M.P. 230.57	Bridge	Side.
Cayuse	Water tank spout	Side.
M.P. 226.86	Bridge	Side.
M.P. 214.42	Bridge	Side.
Third Subdivision		
M.P. 206.21	Bridge	Side.
M.P. 205.84	Bridge	Side.
M.P. 204.91	Bridge	Side.
M.P. 204.15	Tunnel No. 3½	Top and side.
M.P. 198.26	Bridge	Side.
Echo	Water tank spout	Side.
M.P. 187.2	Overhead bridge	Top and side.
Munley	Water tank spout	Side.
M.P. 182.4 (W. of Umatilla)	Bridge	Side.
Messner	Coal chute	Side.
M.P. 148.49	Bridge	Side.
Arlington	Water tank spout	Side.
M.P. 114.3	Bridge	Side.
Day	Water tank spout	Side.
M.P. 104.46	Bridge	Side.
Ainsworth	Stand pipe	Side.
M.P. 99.51	Bridge	Side.
M.P. 92.8	Overhead bridge	Side.
Fourth Subdivision		
The Dalles	Stand pipes	Side.
M.P. 74.1	Tunnel No. 3	Side.
M.P. 71.4	Tunnel No. 2	Top and side.
M.P. 69.40	Bridge	Side.
M.P. 63.32	Bridge	Side.
M.P. 61.03	Bridge	Side.

Location	Structure or Obstruction	Clearance of engine or car is close at—
Wyeth	Water tank spout	Side.
M.P. 39.90	Bridge	Side.
M.P. 32.15	Bridge	Side.
M.P. 31.85	Bridge	Side.
M.P. 29.65	Bridge	Side.
M.P. 26.01	Bridge	Side.
M.P. 15.82	Bridge	Side.
Troutdale	Train order signal	Side.
M.P. 15.4	Overhead bridge	Top.
M.P. 10.3	Underpass handrails	Side.
M.P. 8.5	Underpass handrails	Side.
M.P. 4.2 (N.E. 63rd Ave.)	Overhead bridge	Top.
M.P. 3.8 (N.E. 53rd Ave.)	Overhead bridge	Side.
M.P. 3.5 (N.E. 49th Ave.)	Overhead bridge	Top.
M.P. 0.43 (Willamette River)	Bridge	Side.
M.P. 4.5	Tunnel	Top and side.
Fifth Subdivision		
Tacoma	N. P. overhead bridge to draw span.	Top and side.
Tacoma	Viaduct	Top and side.
Tacoma	Yard tracks	Side.
M.P. 144.92	Bridge	Side.
M.P. 146.93	Bridge	Side.
M.P. 174.6	Bridge	Side.
Seattle (Albro Place)	Overhead bridge	Side.
Seattle (Eighth Ave. So.)	Overhead bridge	Top.
Seattle (Dearborn Ave.)	Overhead bridge	Top and side.
Seattle	Depot Umbrella Shed	Top and side.
Seattle (Jackson St.)	Overhead bridge	Top.
Olympia Branch		
M.P. 5.2	Tunnel No. 25	Top and side.
M.P. 5.8	Tunnel No. 26	Top and side.
M.P. 6.7	Overhead bridge	Top and side.
Olympia	Water tank spout	Side.
Olympia	Deput Umbrella Shed	Side.
Grays Harbor Branch		
M.P. 1.25	Bridge	Side.
M.P. 4.35	Bridge	Side.
Independence	Water tank spout	Side.
South Elma	Water tank spout	Side.
M.P. 43.53	Overhead bridge	Top and side.
M.P. 43.64	Overhead bridge	Top.
M.P. 53.33	Bridge	Side.
Aberdeen	Depot Umbrella Shed	Side.
Montesano Branch		
M.P. 0.31	Bridge	Side.
Tono Branch		
Tono	Coal mine tipple	Top and side.
St. Johns Branch		
M.P. 6.93	Overhead bridge	Top and side.
Joseph Branch		
M.P. 2.48	Bridge	Side.
Elgin	Water tank spout	Side.
M.P. 32.58	Water tank spout	Side.
M.P. 48.97	Water tank spout	Side.

Location	Structure or Obstruction	Clearance of engine or car is close at—
Shaniko Branch		
Biggs.....	Water tank spout.....	Side.
Wasco.....	Water tank spout.....	Side.
Grass Valley.....	Water tank spout.....	Side.
Heppner Branch		
Ione.....	Water tank spout.....	Side.
Cecil.....	Water tank spout.....	Side.

801 (S). In moving cars on tracks under overhead trolley wires, employes are warned that overhead clearances to such wires and side clearances to supporting trolley poles are close at the following locations. Trolley wires must not be touched and careful lookout must be kept for low and broken wires.

Station	Location	
Portland.....	N.W. Front Ave.....	United Railways.
East Portland.....	S.E. Second Ave. and S.E. Morrison St.	P. E. P.
East Portland.....	S.E. Second Ave. and S.E. Hawthorne Blvd.	P. E. P.
Albina.....	N. Larrabee Ave.....	P. E. P.
Albina.....	N. Interstate Ave.....	P. E. P.
Albina.....	N. Greeley Ave.....	P. E. P.
Black River.....		C. M. St. P. & P.
Argo.....	Lucile Ave. overhead bridge.....	C. M. St. P. & P.
Argo.....	Argo yard lead.....	C. M. St. P. & P.
Seattle.....	Seattle Boulevard overhead bridge just east of Seattle passenger station.	C. M. St. P. & P.
Seattle.....	Jackson St. overhead bridge just west of Seattle passenger station.	C. M. St. P. & P.

801 (T). Trainmen must not ride on the side of cars or engines while moving in trains on Shaniko Branch as there are a number of places on this branch where clearance is impaired by narrow cuts.

801 (U). Account insufficient clearance between N. P. connection scale track and main track at Olympia, trains or engines must not attempt to pass on main track if trains or engines are moving on connection.

801 (V). Account insufficient clearance between coach track No. 1 just east of passenger station and main track at turnout at Aberdeen, trains and engines must not attempt to pass on main track if trains or engines are moving on coach track No. 1.

801 (W). At Tacoma, care must be used in switching or making moves in yards, due to close clearance of yard tracks.

802 (A). Cars must not be left on, nor foul of, lead tracks in 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 accountable for yard accidents on lead tracks, as well as on any other track in yard, whether such notice is received or not.

802 (R). When storing cars at stations or on sidings, all cars except flat cars and cars of all steel construction, must be separated into cuts of 10 cars each 100 feet apart 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 100 feet. If possible, when a train is parted to clear a public crossing or is standing near such crossing, a clear space of 100 feet must be left on each side of crossing.

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

Lime Mission Nolin Stanfield Cosmopolis

803 (A). Roadway equipment, such as ditchers, pile drivers, rail loaders, bridge derricks and similar machines must not be dropped either singly or coupled to 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.

805 (A). 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.

Work trains unloading ballast or cinders on two or more tracks must stop when a train is passing on an adjacent track.

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

805 (B). - 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 15 MPH must not be exceeded.

With side rods and main rods in place, the maximum speed may be increased to 25 MPH, unless otherwise restricted.

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

In handling a dead engine it must be placed twelve cars behind the road engine, and if a second dead engine is in the train it should be twenty-five cars behind the road engine. In handling three dead engines in train, place fifteen cars between each engine.

805 (C). 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 car must not be placed next to a car carrying passengers. (BE 676).

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

Continued on page 14.

805 (C).—Continued.

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 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-c).

When handling cars placarded "Explosives" in yards or on sidings, such cars must be coupled to an engine, electric locomotive or motor car protected by a car between. (BE 678-a).

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).

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

805 (D). 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 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 805-E, 805-R, 805-S).

Live stock must be handled in head end of train when practicable. Horses moving in stock cars must be handled at least three cars from the engine.

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 drawbars may be handled in trains under the following conditions:

- (a) When not containing live stock or perishables, may be chained up in train and handled 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 handled 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 drawbar 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.

805 (E). When not used on head end of train, helper engine must be cut in ahead of caboose, and when there are wooden underframe cars, outfit cars, drover cars, scale test cars, cars with emergency drawbars, or cars carded to be handled on rear of train, the helper engine must be cut in ahead of them.

805 (F). 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 work train, the wings must be properly secured.

805 (G). In helper districts, engines must not be backed down hill where wye tracks or turntables are available for turning engines, except in emergencies. When such back-up movement is necessary, engine man must first secure authority from train dispatcher.

805 (H). In freight trains, express refrigerators must be placed at least one car from engine.

In freight or passenger service there must be one other car between any two Pennsylvania express refrigerator cars.

805 (R). Helper engine on passenger train must be coupled ahead of train engine. Helper engine on freight train between Gibbon and La Grande, Durkee and Baker and Union Junction and North Powder must be cut in on rear of train as close ahead of caboose as conditions permit but always ahead of cars listed in Rule 805(E), except where authorized by superintendent's bulletin, helper may be used on the head end of train.

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

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

806 (A). Before occupied outfit cars or drover cars are coupled into, the occupants must be notified. These cars must not be switched with except in handling to or from trains.

811 (A). 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 prohibited.

811 (B). The following will govern use of fire fighting equipment on passenger engines:

- (a) Shut off steam heat on engine.
- (b) Shut off steam heat train line at rear or front of the car that is on fire, depending on the direction of the wind, so as to be on the windward end, and disconnect the steam hose.
- (c) Couple up the fire hose that has been taken from the engine tender to the steam heat line on car toward the engine.
- (d) Fireman, on signal from trainmen that they are ready, will put on injector and open the water line that connects the branch pipe to the steam heat line; in a short time water will be ejected from the fire hose.

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

812 (B). When a car is set out account hot box, the packing must be removed 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.

812 (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.

812 (D). When brakes are sticking, conductors must wire superintendent, master mechanic and trainmaster, and must notify mechanical foreman at next terminal in advance, giving initials, number and location of car in train.

812 (E). White bands painted on telegraph or signal line poles indicate car length distance from switch of siding as follows: One band, 40 cars; two bands, 55 cars; three bands, 70 cars; four bands, 95 cars.

812 (F). When a stop is made by a streamline train, due to some unusual condition, both sides of the train must be inspected before proceeding.

812 (R). In addition to making inspection of train as often as practicable as per Transportation Rule 812 and Air Brake Rule 1059(A), freight trains must stop and be given walking inspection by train crews at the following points:

Arlington or Blalock—Eastward and Westward;
Castle Rock —Eastward;
Rocky Point —Westward.

The above inspection of westward trains may be made at Castle Rock or Kalama instead of Rocky Point when stop is made at those stations.

The above inspection must be made by all eastward and westward trains at either Wyeth, Farley, Cascade Locks or Bonneville, except that eastward trains may make this inspection at Dodson when stop is made for other purpose.

817 (R). The rear of a streamline train must not be coupled to by a steam engine or a car handled by a steam engine, except when necessary to push the streamline train in to clear. Emergency coupler is provided for such use, and is kept in baggage car of the train.

When such movement is necessary, it may be made for a short distance only, and extreme care must be used. It must be known that the air brakes of the steam engine are coupled and cut in and that brakes on the streamline train are fully released before movement is attempted.

817 (S). Interlocking signal indication will govern back-up movements with passenger trains between Portland and East Portland, and all movements, except streamliner equipment, will be directed onto U. P. main track toward Graham.

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

Between Portland and East Portland—on passenger trains backing up;

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

Air whistle must be sounded when approaching Front Street Crossing Portland and at other points where conditions require.

818 (A). 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 the train should be pulled around curves with brakes released.

854 (A). 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.

854 (B). Train and engine men must not undertake their personal cleaning up or changing of clothing while on duty, or prior to arrival at terminal.

854 (R). On trains moving over Willamette River bridge, between Portland and East Portland, trainman must be on rear platform of rear car of train.

873 (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.

874 (A). Before departure from stations where visitors are permitted on trains, train employes must announce: "Visitors off, please."

881 (A). When passenger train cannot be properly heated, or upon failure of air conditioning, wire report must be made to designated officers.

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.

882 (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.

The vestibule curtains must be drawn across the diaphragms on dead-head or occupied passenger equipment while being handled in passenger, mail and express trains.

882 (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.

882 (R). Streamline trains must not be moved until all coach, Pullman and dining car doors have been closed.

When picking up train orders from side door of engine room on streamline trains, safety bar must be placed in down position as soon as door is opened.

920 (A). Enginemen must see that engine is supplied with twelve torpedoes and not less than three red fuses.

922 (A). Employes must not go out on exterior of cab of, nor hang out from gangway or steps of, a moving engine for any purpose. When this is necessary, the engine must be stopped.

922 (B). Use of locomotive boiler running board when going between cab and front end of locomotive to put up or take down signals or indicators is prohibited, except on locomotives equipped with pilot plows.

At Albina, indicators may be placed on engines by enginemen before making light movement to Portland.

923 (A). Due to the extremely high temperature 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.

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.

929 (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.

929 (R). Respirators are furnished for use in passing through tunnels on the Fourth and Fifth Subdivisions and train and engine men using same must know that such equipment is an engine and caboose and that it is in proper condition.

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

Baker	—Sand spur;
Meacham	—Casey Mill spur west of loading platform;
Elgin	—Reed Lbr. Co. run-around track;
Graham	—Poole & McGonigle east track;
Near M.P. 4	—Wet Wash Laundry Co. spur;
Bruun	—Doernbecher Mfg. Co. middle spur, rear end;
Kenton	—Schlesser Bros. spur.

At Telocaset, engines turning on wye, must back through the east leg and head out the west leg of wye.

2100, 2200, 2500 and heavier class engines must not go on the following tracks:

Baker	—Davis Lbr. Co. spur;
La Grande	—Bowman Hicks Lbr. Co. mill pond track;
Pendleton	—Bluett spur; Collins spur (except may use center track); Walters-Mill spur (except may use track to point 150 ft. beyond Nelson platform); Richfield oil spur;
Celilo	—Taft spur;
Dillon	—Spur;
The Dalles	—Track No. 9; Cross-over between spurs at freight house; Cross-over between lead and laundry spur; Old roundhouse spur;
East Portland	—North leg of wye tracks; Curve on back track; Lead to S.E. Second Avenue; Globe Mill tracks;
Wyeth	—No. 2 track beyond rock bunkers and over flume;
Albina	—Coach tracks 5 and 6, west turn-outs; Store lead; Old Rip track 2 east of track crossing; Old Rip tracks 3, 4, 5, 6, 7 and 8; N. River Ave. track; Montgomery Dock track; Pacific Coast Elevator track; Portland Flouring Mills spurs 1, 2, 3 and Joeko;
St. Johns	—All sidings and spurs;
Kenton	—All spurs; West end of team track;
North Portland	—All sidings and spurs;
Tacoma	—All tracks west from main line past gas plant toward Carstens Packing Plant and Glacier Dock, except that 2100, 2500 and 7000 class engines may be used to and from Carstens Stock Yards;
Argo	—South end of No. 1 pocket track; South end lower No. 11 track; Tracks 12 and 13; Cross-over between No. 6 lead and outbound lead; Loop track; Coach yard tracks; Rip tracks; 101 track;
Joseph Branch	—All tracks;
Heppner Branch	—All tracks, except 2100, 5400 and Mallet class engines may go on all tracks within yard limits on Heppner Branch at Heppner Jet.;
Condon Branch	—All tracks;
Shaniko Branch	—All tracks;
Cosmopolis	—Wye tracks; Anderson & Middleton log rollway; Bay City Mill tracks; South Aberdeen Belt Line;
Montesano	—Schafer Bros. mill tracks;

932 (R).—Continued.

Tono	—From road crossing at station east;
Olympia Branch	—All tracks;
Pilot Rock Branch	—All tracks.

5400 class and heavier engines must not go on following tracks:

Baker	—Sand spur; Texaco Oil spur; W. H. Ellis spur; Bakery Grocery spur;
La Grande	—Mt. Emily Lbr. Co. two mill spurs; Wye track, except in emergency when movement must be very slow over east leg of wye, account sharp curvature;
Pendleton	—All side tracks except Nos. 1, 2, 4, 6, house track and short coach track;
Umatilla	—Gravel pit spur west of main line tracks running into Jones-Scott spur;
Castle	—Stock track;
Willows	—House track;
Arlington	—Standard Oil spur;
Hook	—House track;
The Dalles	—Run-around track at turntable; Turn-out to track leading to roundhouse stall No. 1;
Grays Harbor Branch	—All tracks;
Tono Branch	—All tracks.

7000 class engines must not go on the following tracks:

Huntington	—Wye;
Lime	—High line;
Durkee	—House track;
Pleasant Valley	—Coal track and wye;
Haines	—West end of stock track;
La Grande	—400 feet of west end engine track No. 3; Freight house track;
Kamela	—Ash pit tracks;
Meacham	—Casey Mill spur;
Duncan	—House tracks 1 and 2;
Pendleton	—All side tracks except Nos. 1, 2, 4 and 6; house track and short coach track;
Umatilla	—Jones-Scott spur; sand and gravel spur;
Celilo	—Spur;
Dillon	—Spur;
The Dalles	—Run-around track at turntable; Roundhouse track leading to Stall 1; Libby-McNeil Dryfresh tracks;
Hood River	—Cross-over at freight house;
Clarnie to East Portland	—All spurs;
Albina	—All tracks except main leads and main yard tracks and engine house leads;
Kenton	—All spurs;
St. Johns	—All spurs.

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 turn-out to these tracks;

Huntington	—Track No. 213 (caboose lead track); Track No. 11 (main engine lead to turntable); Wye and stock tracks; Track No. 2—known as No. 9 track through yard can be used but engine must not exceed speed of 5 MPH.
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932 (S). All Mikado class engines, with train or light, except engines 2166 to 2171 inclusive, and engines 2528 and 2529, are prohibited from making movement on westward track (nearest to river) between East Portland and Harding Street, Albina.

AIR BRAKES.

1014 (A). When a streamline train is helped or towed by a steam engine, or when the brake valve is changed to the automatic system, brake pipe pressure must be 110 pounds.

1014 (R). Engines in freight or mixed train service will carry 90 pounds brake pipe pressure on descending grades between Rieth and La Grande and between Encina and Huntington.

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 Air Brake Rule 1044(A) must be made on all freight trains before descending grade between Encina and Leonard, Encina and Baker, Telocaset and Lun, Telocaset and Union Jet., 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, or on trains with helper on head end, ascending the grade and by all trains descending 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 must 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.

1050 (G). Locomotive and tender brakes on engines helping or pushing trains will be operated in conjunction with the train brake.

1051 (B). On streamline trains, when running air test is made as required by Air Brake Rules 1051 and 1051(A), the rear brakeman must know that the brakes apply and release properly, and after it is known that the brakes on the rear car have been released, he must signal the engineman with one sound of the communicating signal.

If the engineman does not receive this signal, a second test must be made, and if signal is not received after second test, the train must be stopped, cause ascertained, and standing air test made if necessary.

1051 (R). Running test as prescribed in Air Brake Rules 1051 and 1051(A) must 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 M.P. 6 east of Graham;
Condon Branch—westward trains at Speece, Mikkalo and Shutler;
Shaniko Branch—westward trains at Kent, M.P. 34, Klondike and Wasco,
and eastward trains at Sandon and M.P. 35;
Bend Branch—westward trains at M.P. 100.

1059 (R). Westward freight and mixed trains must stop and trainmen must inspect and adjust piston travel at Barnett, Grass Valley, Thornberry and Madras.

1060 (B). Trainmen must know that hand brakes are in good condition on cars that have air brakes cut out.

1063 (B). Air Brake Rule 1063(A) 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). Air Brake Rule 1064(A) is amended as follows:

After release of brakes, attempt to start train must not be made until ample time has been allowed for all brakes to release.

Engine must be kept 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, engine should be moved 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 cut off 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 merchandise cars before making spot.

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

All retaining valves must be used on passenger, mail and express trains, descending grade 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 must be used.

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

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

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

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

On Bend Branch, freight and mixed trains on descending grades between M.P. 100 and South Jet. 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 must patrol top of train where retaining valves are used.

1079 (R). In addition to making inspection of train as often as practicable as per Rule 812, freight trains must stop and remain standing ten minutes to allow wheels to cool at the following points:

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

TRAIN CONTROL RULES.

2464 (R). When employes 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 the 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.

2464 (S). 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 employes, machinery or appliances are liable to come in contact with train control wires. Signal maintainer, after re-energizing the line, will so advise train dispatcher.

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-LA GRANDE										
		WESTWARD					EASTWARD					
		Huntington to Durkee	Durkee to Encina	Encina to Lun	Lun to Telocaset	Telocaset to La Grande	La Grande to Union Jct.	Union Jct. to Telocaset	Telocaset to Baker	Baker to Encina	Encina to Huntington	
MS 59 $\frac{23-23}{30}$ 472	3500 to 3564 3705 3803 to 3805	2835	1470	6000	2835	6000	6000	2200	6000	2200	6000	
MS 69 $\frac{22-22}{32}$ 403	3934 to 3937	2765	1385	6000	2765	6000	6000	2050	6000	2050	6000	
MC 57 $\frac{26-41}{32}$ 464	3601 to 3613	3200	1000	6000	3200	6000	6000	2300	6000	2300	6000	
TTT 63 $\frac{20\frac{1}{2}}{30}$ 202	5400 to 5414	2350	1045	3900	2350	5000	5000	1485	5000	1485	5000	
MT 73 $\frac{29}{28}$ 230	7861 to 7869	1700	700	3500	1700	3500	3500	1000	2900	1000	3500	
MK 63 $\frac{26}{28}$ 214	2500 to 2531	1825	725	3500	1825	3500	3500	1100	3300	1100	3500	
MK 03 $\frac{26}{28}$ 211	2166 to 2171	1825	725	3500	1825	3500	3500	1100	3300	1100	3500	
MK 57 $\frac{23\frac{1}{2}}{30}$ 207	2100 to 2185	1725	700	3500	1725	3500	3300	1000	2900	1000	3500	
C 57 $\frac{22}{30}$ 179	725 to 729	1265	560	3000	1265	3000	3000	815	2200	815	3000	
C 57 $\frac{22}{30}$ 190	730 to 768											
P 77 $\frac{25}{28}$ 167	3218 to 3225	1190	525	2570	1190	2700	2700	760	2200	760	2700	
P 77 $\frac{25}{28}$ 178	3226 to 3227											
T 63 $\frac{22}{28}$ 162	1755 to 1760	1070	475	2460	1070	2700	2700	690	2000	690	2700	
T 69 $\frac{22}{28}$ 101	1742 to 1754	980	440	2240	980	2700	2700	640	2000	640	2700	
P 77 $\frac{22}{28}$ 149	3201 to 3217	960	440	2250	960	2700	2700	640	2000	640	2700	

EXPLANATION

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

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

$$C\ 57\ \frac{22}{30}\ 187$$

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)	LA GRANDE-UMATILLA-MESSNER								
		WESTWARD			EASTWARD					
		La Grande 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 La Grande	
MS 59	$\frac{23-23}{30}$ 472	3500 to 3564 3705 3803 to 3805	2930	1430	6000	3560	6000	3115	1430	6000
MS 69	$\frac{22-22}{32}$ 403	3934 to 3937	2860	1405	6000	3475	6000	3040	1405	6000
MC 57	$\frac{26-41}{32}$ 464	3601 to 3613	3200	1600	6000	3750	6000	3200	1600	6000
TTT 63	$\frac{29\frac{1}{2}}{30}$ 292	5400 to 5414	2350	1045	5000	2420	4000	2350	1045	5000
MT 73	$\frac{29}{28}$ 230	7861 to 7869	1700	700	3500	1700	2750	1510	700	3500
MK 63	$\frac{26}{28}$ 214 211	2500 to 2531 2166 to 2171	1825	725	3600	1825	2850	1585	725	3000
MK 57	$\frac{23\frac{3}{4}}{30}$ 207	2100 to 2165	1700	700	3500	1700	2750	1510	700	3500
C 57	$\frac{22}{30}$ 179	725 to 729	1265	560	3000	1265	2200	1195	560	3000
C 57	$\frac{22}{30}$ 190	730 to 768								
P 77	$\frac{25}{28}$ 167	3218 to 3225	1190	525	2700	1190	2200	1090	525	2700
P 77	$\frac{25}{28}$ 178	3226 to 3227								
T 63	$\frac{22}{28}$ 162	1755 to 1760	1070	475	2700	1070	2000	920	475	2700
T 69	$\frac{22}{28}$ 161	1742 to 1754	980	440	2700	980	2000	850	440	2700
P 77	$\frac{22}{28}$ 149	3201 to 3217	975	400	2700	975	2000	850	440	2700

TYPE OF ENGINE	NUMBERS (Inclusive)	RIETH AND PILOT ROCK		JOSEPH AND LA GRANDE						
		WESTWARD	EASTWARD	WESTWARD			EASTWARD			
		Rieth to Pilot Rock	Pilot Rock to Rieth	Joseph to Rondowa	Rondowa to Gulling	Gulling to La Grande	La Grande to Rondowa	Rondowa to Enterprise	Enterprise to Joseph	
T 63	$\frac{20}{24}$ 113	1715 to 1726	625	625	1365	685	1365	1120	625	445
T 57	$\frac{20}{26}$ 119	1733 to 1736	700	700	1530	770	1530	1255	700	500
T 69	$\frac{22}{28}$ 159	1742 to 1754	700	700	2000	1500	2000	2000	1500	700
T 63	$\frac{22}{28}$ 162	1755 to 1760	800	800	2000	1000	2000	2000	1600	800
P 77	$\frac{25}{28}$ 167	3218 to 3225	800	800	1840	1000	1840	1840	1000	700
P 77	$\frac{22}{28}$ 149	3200 to 3217	800	800	1740	875	1740	1425	800	555
T 57	$\frac{20}{26}$ 126	1737 to 1741								
C 57	$\frac{22}{30}$ 190	730 to 768	1150	1150	2515	1925	2515	2330	1800	1015

EXPLANATION

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 "TTT" Two-Ten-Two
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EXAMPLE: Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:

$$C\ 57 \quad \frac{22}{30} \quad 187$$

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 DALLES				THE DALLES AND UMATILLA			
		EASTWARD		WESTWARD		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
MS 59 $\frac{23-23}{30}$ 472	3500 to 3564 3705 3803 to 3805								
MS 69 $\frac{22-22}{32}$ 403	3934 to 3937	7000	8000	7000	8000	6000	8000	8000	8000
MC 57 $\frac{26-41}{32}$ 464	3601 to 3613								
TTT 63 $\frac{29\frac{1}{2}}{30}$ 292	5400 to 5414	5190	5680	5190	8000	4940	6485	6485	8000
MT 73 $\frac{29}{28}$ 230	7861 to 7869	3040	3655	3500	4570	3430	3920	4220	4990
MK 63 $\frac{26}{28}$ 214 211	2500 to 2531 2166 to 2171	3265	4080	3470	5480	3110	4080	4080	5100
MK 57 $\frac{23\frac{1}{2}}{30}$ 207	2100 to 2165	3200	4000	3400	5375	3050	4000	4000	5000
C 57 $\frac{22}{30}$ 179	725 to 729								
C 57 $\frac{22}{30}$ 190	730 to 768	2600	2940	2600	4610	2650	3030	3200	3900
P 77 $\frac{25}{28}$ 167	3218 to 3225								
P 77 $\frac{25}{28}$ 178	3226 to 3227	2100	2625	2100	3185	2320	2700	2850	3275
T 63 $\frac{22}{28}$ 162	1755 to 1760	2000	2475	2000	3895	2200	2555	2690	3285
T 69 $\frac{22}{28}$ 161	1742 to 1754	2000	2265	2000	3555	2010	2330	2460	3035
P 77 $\frac{22}{28}$ 149	3201 to 3217	1800	2040	1800	3185	1730	1200	2220	2700

TYPE OF ENGINE	NUMBERS (Inclusive)	OREGON TRUNK JCT. AND BEND					BIGGS AND SHANIKO							ARLINGTON AND CONDON			HEPPNER JCT. AND HEPPNER			
		EASTWARD				WESTWARD	EASTWARD				WESTWARD			EASTWARD		WESTWARD		EASTWARD		
		O. T. Jct. to North Jct.	North Jct. to South Jct.	South Jct. to Madras	Madras to Bend	Bend to O. T. Jct.	Biggs to Thorn- berry	Thorn- berry to Sandon	Sandon to Grass Valley	Grass Valley to Shaniko	Shaniko to Grass Valley	Grass Valley to Hay Canyon	Hay Canyon to Sandon	Arling- ton to Rock Creek	Rock Creek to Condon	Condon to Rock Creek	Rock Creek to Arling- ton	Hepp- ner Jct. to Ione	Ione to Lexing- ton	Lexing- ton to Heppner
MK 63 $\frac{26}{28}$ 214 211	2500 to 2531 2166 to 2171	1850	2100	1190	1830	3505														
MK 57 $\frac{23\frac{1}{2}}{30}$ 207	2100 to 2165	1815	2060	1165	1815	3435														
C 57 $\frac{22}{30}$ 179	725 to 729																			
C 57 $\frac{22}{30}$ 190	730 to 768	1500	1730	1000	1500	3000	345	550	700	790	1450	960	700	600	340	1820	1700	1500	1150	1125
T 63 $\frac{22}{28}$ 162	1755 to 1760	1160	1465	825	1200	2555	290	465	600	670	1120	810	595	510	285	1465	1430	1200	1000	950
T 69 $\frac{22}{28}$ 161	1742 to 1754	1075	1335	760	1100	2330	265	425	545	610	1175	740	540	465	260	1550	1310	1100	900	870
T 57 $\frac{20}{26}$ 125	1737 to 1741	890	1180	720	970	2060	230	375	480	540	1030	650	480	420	240	1250	1155	1015	785	770
T 64 $\frac{22}{26}$ 145	1730 to 1731	830	1070	655	880	1870	210	340	435	490	855	590	435	370	210	1200	1045	900	710	695
T 57 $\frac{20}{26}$ 119	1733 to 1736	740	1120	685	920	1955	220	355	455	510	660	615	455	390	220	1210	1090	965	740	725
T 63 $\frac{20}{24}$ 113	1715 to 1726	690	985	655	745	1580	180	290	415	370	815	500	370	315	180	980	890	810	625	590

EXPLANATION

"P"..... Pacific
 "T"..... Ten Wheel
 "C"..... Consolidation
 "MK"..... Mikado
 "MC"..... Mallet Compound
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EXAMPLE: Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:

$$C\ 57\ \frac{22}{30}\ 187$$

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									EXPLANATION
		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		
MT 73 $\frac{29}{28}$ 230	7861 to 7869	3920	2290	1960	4980	3920	3920	1610	4985	<p align="center">EXPLANATION</p> <p>"P"..... Pacific "T"..... Ten Wheel "C"..... Consolidation "MK"..... Mikado "MT"..... Mountain</p> <p>EXAMPLE: Consolidation engine having 57 inch drivers, cylinders 22 inch diameter and 30 inch stroke, and weighing 187,000 pounds on drivers:</p> <p align="center">C 57 $\frac{22}{30}$ 187</p>	
MK 63 $\frac{26}{28}$ 214 211	2500 to 2531 2166 to 2171	3785	2220	2005	4590	3655	3655	1685	5060		
MK 57 $\frac{23\frac{1}{2}}{30}$ 207	2100 to 2165	3710	2175	1965	4500	3585	3585	1650	4950		
C 57 $\frac{22}{30}$ 190	730 to 768	3185	1860	1500	3850	3080	3080	1265	3850		
P 77 $\frac{25}{28}$ 178 167	3226 to 3227 3218 to 3225	2845	1550	1340	3440	2745	2745	1130	3440		
T 63 $\frac{22}{28}$ 162	1755 to 1760	2690	1560	1265	3255	2600	2600	1070	3255		
T 69 $\frac{22}{28}$ 161	1742 to 1754	2460	1480	1155	2970	2375	2375	975	2970		
P 77 $\frac{22}{28}$ 149	3200 to 3217	2200	1190	1035	2665	2125	2125	875	2605		

TYPE OF ENGINE	NUMBERS (Inclusive)	CENTRALIA AND HOQUIAM						CENTRALIA AND TONO	COSMOPOLIS AND PRIMO	EAST OLYMPIA AND OLYMPIA
		EASTWARD		WESTWARD						
		Hoquiam to Cosmopolis	Cosmopolis to Centralia	Centralia to Cosmopolis	Cosmopolis to Hoquiam	EASTWARD	EASTWARD			
MK 57 $\frac{23\frac{1}{2}}{30}$ 207	2100 to 2165	1515	4490	4980	1960		1455			
C 57 $\frac{22}{30}$ 190 179	730 to 768 725 to 729	1325	3880	4290	1700	2520	1275	1515		
C 57 $\frac{20\frac{1}{2}}{30}$ 172 167	719 to 723 710 to 724	1490	2875	3355	1490	2200	985	1175		
T 63 $\frac{22}{28}$ 162	1755 to 1760	1120	3110	3625	1650	1975	1060	1280		
T 69 $\frac{22}{28}$ 161	1742 to 1754	1020	2840	3310	1570	1865	970	1170		
P 77 $\frac{22}{28}$ 149	3200 to 3217	710	2505	2920	905	1720	855	980		
T 64 $\frac{22}{26}$ 145	1730 to 1731	710	2275	2560	820	1590	775	885		
T 57 $\frac{20}{26}$ 125	1737 to 1741	710	2505	2920	905	1720	855	980		
T 57 $\frac{20}{26}$ 119	1733 to 1736	740	2375	2765	855	1630	810	980		
T 63 $\frac{20}{24}$ 113	1715 to 1726	625	1930	2245	695	1340	660	800		





