

UNION PACIFIC RAILROAD COMPANY
Northwestern District

Oregon Division
Special
Instructions
No. 13

Effective Thursday,
July 1, 1954

Superseding Special Instructions No. 12

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

A. McALLISTER,
General Manager

D. F. WENGERT,
General Superintendent

J. G. KIMMELL,
Superintendent

NOTE: Changes in this issue are printed in type same as this.

Railroad Watches

2 (I). Employees listed below and other employees as may be designated, are not subject to Operating Rules 2 and 2 (A), but they must, while on duty, have a reliable railroad grade watch* which must not vary more than 30 seconds from correct time:

(*A railroad grade watch is one equipped with a lever set.)

Safety Representatives	Traveling Firemen
Trainmasters	†Station Agents
Assistant Trainmasters	†Operators
Traveling Conductors	Outside Hostler Helpers
Road Foremen of Engines	Assistant Yardmasters

(†Except when assigned in offices where standard clock is located.)

2 (S). Employees must present their watches to officers and supervisors for time comparison upon request.

2 (T). Referring to Operating Rule 2, yard helpers of crews making main track movements are subject to provisions of this rule.

2 (U). Train dispatchers, station agents, operators and employees who are required to use a reliable railroad grade watch, must not wear wrist watches while on duty.

Where Time Applies

5 (R). At Biggs, time shown in time-table schedules and in train orders applies at the end of double track.

Signals

7 (R). Employees on trains and engines which operate in territory where they are governed by the rules of another railroad, must provide themselves with necessary signal equipment to fully comply with such rules.

7 (S). When starting trains with diesel helper on rear end of train, trainmen will be stationed in a position to relay signals to start from head end to crew on helper engine.

When it is not possible to relay signals, the following method will be used:

When ready to move, engineer on head end will make a 15-pound automatic brake pipe reduction, return brake valve to running position and wait three minutes. Engineer on helper engine will start three minutes after his gauge shows brake pipe pressure being restored.

8 (R). Yellow flags by day and yellow lights by night will be used by switchtenders and herders.

Proceed signals as well as stop signals given by switchtenders must be answered.

8 (S). Electric lanterns may be used by switchtenders, herders and interlocking signalmen for displaying yellow lights.

Reduce and Resume Speed Signs

10 (R). Reduce Speed sign showing by figures the maximum speed permitted, placed on engineer's side of track, indicates that the track 2500 feet distant is in condition for a speed of not more than indicated by the sign. Example: 60-40-25 will indicate maximum speed of 60 MPH for streamline trains, 40 MPH for other passenger trains, 25 MPH for freight trains.

Resume Speed sign placed on engineer's side of track, indicates that the Reduce Speed location has been passed.

The entire train must pass over the designated location at the specified speed.

Such speed restrictions will also be shown in time-table or superintendent's bulletin.

Engine Whistle Signals

14 (R). Operating Rule 14 (a) and Air Brake Rule 1044 are changed as follows: When an emergency exists and it is necessary to use engine whistle to call for brakes to be applied on moving train or cars or when necessary to use engine whistle to signal some other movement to stop, a succession of short sounds must be used.

Operating Rule 14 (p) is changed as follows: When necessary to use engine whistle as an alarm for persons or livestock on track, Whistle Signal 14 (l), two long, one short, and one long sounds, must be used.

14 (S). In addition to locations listed in Operating Rule 14 (l), engine whistle must be sounded and bell rung approaching private crossings when view of crossing is obscured or where it can be seen that persons or vehicles are approaching or in vicinity of the crossing.

Headlights

17 (R). Oscillating red headlight on engine so equipped must be displayed under the following conditions:

When train becomes disabled or makes sudden stop due to unusual occurrence, or when an adjacent track is obstructed or there is possibility of it being obstructed;

When head end protection is required;

When occupying main track in meeting an opposing train, until opposing train dims its headlight and switch is lined to permit opposing train to enter siding, except this does not apply in CTC territory.

When red headlight is displayed, an opposing train on same or adjacent track must stop before passing headlight, ascertain the cause and be governed by conditions.

17 (S). Except on Fifth Subdivision, headlight must be displayed, burning bright, to the front of every train by day and night, except as otherwise prescribed by the rules.

17 (T). Where Operating Rule 17 refers to rear of tender, it also applies to rear of diesel locomotives.

17 (U). Oscillating white headlight on engines so equipped must be displayed by night while passing through cities and towns and while approaching and passing over public crossings.

Markers and Rear End Lights

19 (R). Oscillating red rear end light on passenger trains must be displayed from sunset to sunrise and when day signals cannot be seen due to weather or other conditions. It must also be displayed by day when the train is moving under circumstances in which it may be overtaken by another train.

Rear end light must be extinguished when train is clear of main track and rear end protection is not required.

19 (S). On portions of the division where there is no joint operation of trains with another company, in complying with Operating Rule 19 (A) at night, when a red light is not available, a marker lamp must be securely fastened to rear end of rear car so as to display red light to rear.

When train is clear of main track at night to be passed by another train, the red light must be removed, except in CTC territory.

19 (T). When the rear unit of a train is equipped with built-in markers, they must be lighted both day and night and the requirement that markers display green lights to front and side will not apply.

Indicators

24 (R). Referring to Operating Rule 24: Helper engines will display their engine number in indicators, except when used on head end of train, train number will be displayed.

Switch Lights

27 (R). At stations where reflectorized type switch lamps are in use, in case of headlight failure, or engine backing up, trains and engines must approach facing point switches at restricted speed.

27 (S). Switch lights will not be used on branches shown below:

Joseph	Pomeroy	Tucannon
Pilot Rock	Dayton	Connell
Hepner	Sierra Nevada	Wallace
Condon	Tono	Pleasant Valley
Grass Valley	Olympia	

Pendleton, except main track switches in Walla Walla yard

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

Conditional Stops

28 (R). A green and white signal will be used to stop designated trains at conditional stops shown in time-table.

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

Use of Engine Whistle

32 (R). Within the city limits of Spokane, Pendleton and Pomeroy, it is unlawful to sound engine whistle except to signal flagman or interlocking signalman, or to prevent accident not otherwise avoidable.

At Walla Walla, the use of the engine whistle at the public crossings at West Cherry Street and Gardeners' Association just west of Mill Creek Bridge, is prohibited except to prevent accident not otherwise avoidable.

Clearances

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

- Black River —all westward trains;
- Centralia —all westward Grays Harbor Branch trains originating at Blakeslee Jct.;
- Centralia —all eastward Tono Branch trains originating at Wabash;
- Independence—all westward CMStP&P trains originating at Helsing Jct.;
- Walla Walla —all trains;
- Wallula —all eastward Wallula Branch trains;
- Wallula —all eastward Yakima Branch trains;
- Ayer —all trains;
- Spokane —all westward trains originating at West Spokane.

83 (S). Northern Pacific clearance must be received as follows:

- Reservation —all eastward second-class and extra trains passing through Tacoma;
- Tacoma, McCarver Street —all eastward second-class and extra trains originating at Tacoma.

83 (T). Trains are not required to receive clearance as per Operating Rule 83 (B) as follows:

- Troutdale —trains entering or leaving Kenton Line if train order signal indicates Proceed;
- Argo —all westward CMStP&P passenger trains;
- Richland Junction —Trains 361 and 373;
- N. P. Crossing, Spokane—all eastward S. I. trains;
- Tucannon —all trains;
- Bolles —all trains;
- Midvale —all trains;
- Turner —all westward trains.

When there is no operator on duty, trains are not required to receive a clearance as per Operating Rule 83 (B) as follows:

- Joseph Sunnyside
- Hooper Jct. Connell
- Starbuck Moscow
- La Crosse Burke

83 (U).

A clearance received at	By	Will confer the same authority on	As when received at
Ayer	Eastward trains	Connell Branch	Hooper Jct.
La Crosse	Westward trains	Sixth Subdivision	Hooper Jct.
Walla Walla	Eastward trains	Dayton Branch	Bolles
Dayton	Westward trains	Pendleton Branch	Bolles

Train Registering Exceptions

83 (V). At Seattle, information required by Operating Rule D-83 will be issued to CMStP&P first-class trains by train order and delivered by operator on platform to conductor who will register by register ticket.

83 (W). Information required by Operating Rule S-83 or D-83 need not be received at:

- Peninsula Jct.—all westward trains and engines;
- Argo —all westward U. P. and CMStP&P trains and engines, but must move at restricted speed Argo to Seattle;

N. P. Crossing, Spokane—all eastward trains and engines.

Conductors of the following trains may register by register ticket, per Operating Rule 83 (A), when operator on duty:

- La Grande —Nos. 105 and 106;
- Black River —all trains;
- N. P. Crossing, Spokane—all U. P. first-class trains and all G. N. trains;
- Marengo —Union Pacific first-class trains;
- Hooper Jct. —all trains Sixth subdivision;
- Ayer —all first-class trains;
- Manito —all trains;
- Wallula —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, and Grays Harbor Branch trains originating or terminating at Blakeslee Jct. must register in U. P. train register in N. P. telegraph office;
- Vancouver—all trains must register by N. P. Form 608 and will be furnished check of register by train order or register check Form 602 issued by operator;
- Zillah —only first-class trains will register.

Stopping Trains at Meeting and Passing Points

89 (R). When a train, either on main track or on siding, is to be stopped to be met or passed by another train, or is stopped by a CTC signal at leaving end of a station, stop should be made not less than 300 feet from fouling point or signal, when length of train will permit.

89 (S). At Troutdale, when necessary for eastward trains to stop on freight line to meet other trains, stop must be made clear of fouling point of siding.

Movements in Yards

93 (R). Yard limits include territory shown:

- Albina —from 930 feet west of Signal 6.3 to North Portland Jct. and to M.P. 10, Kenton Line, including East Portland, Albina and Kenton;
- Troutdale —on Kenton Line only;
- Oregon Trunk Jct.—on Bend Branch only;
- Aberdeen —between yard limit sign just east of Cosmopolis and N. P. yard limit sign at Myrtle St. west of Aberdeen depot;
- Spokane —between yard limit sign west of West Spokane and yard limit sign at Hill.

93 (S). The following instructions govern while using trackage of Northern Pacific Terminal Company at Portland:

All trains must not exceed 6 MPH when moving on depot yard tracks.

Trains and engines using Tracks 1 to 10 inclusive, must move at restricted speed when passing a train receiving or discharging passengers, and must not cross High Shed at passenger station unless proceed signal is received from station master or his assistant.

Continued on page 4.

93 (S). Continued.

Interlocking at south end of freight and passenger yards governs all trains and engines entering or leaving yards.

When the home signal indicates Stop, the following whistle signals will be used to call for desired route: (When conditions are favorable, hand or lantern signals should be used instead of whistle signals.)

- For Albina..... ——— o
- For Troutdale..... ——— ———
- For S. P. Main Line..... o ———
- For S. P. Yard..... o ——— o
- For East Second Street..... o o ———
- For S. P. & S. to East Side... o o ———

When the home signal indicates Proceed, the whistle signal must not be sounded.

93 (T). Tracks of U. P. and N. P. within yard limits at Zillah-Attalia and Huntsville are used jointly by trains and engines of both companies for switching purposes, being governed by Operating Rule 93.

93 (U). Trains and engines are authorized to cross N. P. main track at Athena to make movements to and from Preston-Shaffer elevator, being governed by Operating Rule 93.

93 (V). At Spokane Union Station, trains and engines will be governed by signals from switchtenders.

Freight equipment, other than caboose and low cars, must be handled through Spokane Union Station on Track 5.

Track 5, the most northerly track in Spokane Union Station yard, will normally be used as the running track.

93 (W). At Seattle Union Station, trains and engines on eastward main track must stop clear of Signal 1827-A when waiting for eastward trains that are to use crossover from Tracks 7 and 12.

Railroad Crossings and Junctions

93 (R). Trains and engines must be governed by the following at the railroad crossings and junctions indicated:

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
East Portland. (S.E. Second Ave. between S.E. Main and S.E. Madison Sts.)	S. P. & S.	U. P.	Stop signs.
Peninsula Jct. (M.P. 5.8 Kenton Line)	Seattle main track.		Special Instruction 663 (S).
Helsing Jct.	C. M. St. P. & P.	U. P.	Automatic block signals. Special Instruction 261 (R).
South Aberdeen. (Donovan Mill)	N. P.	N. P.	Stop signs.
Olympia. (Jefferson and 7th Sts.)	N. P.	U. P.	Stop signs.
Tacoma. (Dempsey Mill Spur)	N. P.	N. P.	Stop signs.
Tacoma, Tidewater.	N. P.		Semi-automatic interlocking. Special Instruction 98 (S).
Seattle. (Spokane and Whatcom Aves.)	N. P.		Stop signs.
Seattle. (Whatcom Ave. and Holgate St.)	N. P.		Stop signs.

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93 (R). Continued.

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
Seattle. (Whatcom Ave. and Massachusetts St.)	N. P.		Stop signs.
Seattle. (Railroad Ave. and Atlantic St.)	P. C. N. P. C. M. St. P. & P.		Stop signs, and signals from watchman.
Ayer. (M.P. 264.0)	Sixth Subdivision and Tekoa-Ayer Branch.		Special Instruction 98 (T).
Marango. (M.P. 306.4)	C. M. St. P. & P.		Special Instruction 98 (U).
Spokane. N. P. Crossing (M.P. 163.5) G. N. Crossing (M.P. 164.2)	N. P. G. N.		Interlocking. Interlocking.
Manito. (M.P. 143.4)	C. M. St. P. & P.		Special Instruction 98 (U).
Farmington. (M.P. 103.2)	N. P.	U. P., except passenger trains have precedence over freight trains.	Gate set normally against N. P.
Garfield. (M.P. 95.3)	N. P.	U. P.	Stop signs.
Colfax. (M.P. 77.1)	G. N.	U. P.	Gate and automatic interlocking signals. Gate set normally against G. N.
Oakesdale. (M.P. 39.75)	G. N.	U. P.	Stop signs.
Oakesdale. (M.P. 39.73)	N. P.	N. P.	Stop signs.
Thornton. (M.P. 30.67)	G. N.	U. P.	Gate.
Riparia. (M.P. 17.3)	N. P.	U. P., except that passenger trains have precedence over freight trains.	Gate set normally against N. P.
Walla Walla. (M.P. 47.9)	N. P.	U. P.	Stop signs.
Walla Walla. (M.P. 47.3)	W. W. V.	U. P.	Gate.
Langdon. (M.P. 44.2)	W. W. V.	U. P.	Gate.
Milton. (M.P. 37.0)	W. W. V.	U. P.	Gate.
Parker. (M.P. 91.3)	N. P.		Automatic Interlocking.
Donald. (M.P. 89.35)	N. P. (gauntlet track).		Automatic Interlocking. Special Instruction 672 (R).
Auker. (M.P. 28.9)	W. W. V.	U. P.	Gate.

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98 (R). Continued.

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
Dayton. (M.P. 13.10)	N. P.	U. P.	Stop signs.
Dayton. (M.P. 13.11)	N. P.	U. P.	Stop signs.
Pullman. (M.P. 19.3)	N. P.	U. P.	Stop signs.
Wallace. (M.P. 80.4)	N. P.	U. P.	Stop signs.
Wallace. (M.P. 80.6)	N. P.	U. P.	Stop signs.

98 (S). At N. P. Crossing, Tacoma-Tidewater, when stopped by semi-automatic interlocking signal and no conflicting movement is evident, a member of crew must go to the crossing, remove padlock from derail switch machine, and then operate time release. At expiration of time interval, indicator lamp will light to indicate that lock is released to permit operation of derail. After derail is properly lined, if signal does not change to an indication permitting the train or engine to proceed, member of crew will signal his engineer to proceed if no train or engine is approaching on conflicting route.

Should electric lock fail to operate, break seal, insert switch key and operate lock. After movement completed notify dispatcher.

98 (T). At Ayer, movement of trains and engines from Tekoa-Ayer Branch from junction to depot is authorized by proceed indication of automatic block signal.

When signal displays Stop indication after switch is opened, train or engine must wait three minutes, and if no conflicting movement is evident, may proceed without sending a flagman ahead, but must move at restricted speed.

Westward first-class trains at or seen to be approaching junction will have precedence over other westward trains and engines from junction to depot.

98 (U). At Marengo, eastward C. M. St. P. & P. trains and engines are governed by Dwarf Signal 3068 in making movement to Union Pacific main track. When dwarf signal displays Stop indication after operation of time release, movement may be made only under flag protection. (See Operating Rules 522 and 523.)

At Manito, westward C. M. St. P. & P. trains approaching junction switch must sound one long, one short and one long sound of engine whistle. When Signal 1437 displays Stop indication, train may proceed without stopping when proceed signal is received from switch-tender, but engineer must see that junction switch is properly lined and must proceed at restricted speed.

At Manito, at junction with G. N., eastward U. P. and G. N. trains, after stopping at Stop sign, may then proceed if no conflicting movement is evident.

98 (V). At N. P. Crossing, Spokane, Spokane International trains and engines must stop clear of Signal 1640. If there is no conflicting movement, junction switch may be lined for movement to Union Pacific track. When Signal 1640 displays Stop indication after switch is opened, train or engine must wait three minutes and if no conflicting movement is evident, may proceed after sending flagman ahead, but must move at restricted speed.

Drawbridges

98 (W). Trains and engines after stopping at stop signs must 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 located 128 feet east, and derail located 195 feet west of trestle leading to drawbridge. During certain hours each day draw span will be left open for river traffic and derails will be set in derailling position. If necessary for train or engine to use drawbridge during such hours, notify Agent Montesano or dispatcher to call drawbridge operator.

98 (X). At Tacoma, all trains and engines after stopping at stop signs must not proceed onto draw span of bridge at Tacoma until they have called for, received and acknowledged proceed signal from bridge tender.

98 (Y). At drawbridge, M.P. 23.45 Wallace Branch, trains and engines after stopping at stop sign must sound four short sounds of engine whistle and may proceed when proceed signal is received from bridge tender. If proceed signal is not received from bridge tender, flagman must be sent ahead to drawbridge to give proceed signal if draw span is found properly closed and locked.

Two long sounds of engine whistle must be sounded before moving over bridge.

No bridge tender on duty between 5 A.M. and 9 A.M. and between 5 P.M. and 9 P.M. During these hours draw span will be left open for river traffic.

98 (Z). At M.P. 17.23, Tekoa-Ayer Branch, trains must stop before passing over drawbridge and then proceed if draw span is seen to be closed.

Flag Protection

99 (R). On portions of the division where there is no joint operation of trains with another company, last paragraph of Operating Rule 99 is modified as follows:

"Night signals—A white light, not less than ten torpedoes and six red fuseses."

At night and during foggy and stormy weather, a lighted red fusee will be used for hand signals required by Operating Rule 99.

99 (S). At Hood River and The Dalles, when passenger train stops at passenger station, engineer will not sound whistle for flagman to protect rear of train, but when on the time of a first-class train or in foggy or stormy weather, when ready to proceed, flagman must be recalled by engine whistle.

These instructions do not relieve conductor or flagman of the responsibility of protecting as required by the rules.

99 (T). Trains may be relieved from protecting against following extra trains by train order, Example 7 of train order Form Z, only on the following branch lines:

- Connell Branch between Hooper Jet. and Connell.
- Dayton Branch between Dayton and Turner.
- Pomeroy Branch
- Umatilla Branch
- Joseph Branch
- Pilot Rock Branch
- Pendleton Branch between Walla Walla and Alto.
- Heppner Branch
- Condon Branch
- Grass Valley Branch
- Tono Branch

99 (U). On following branches between 6 A.M. and 6 P.M. daily, a speed of 10 MPH must not be exceeded by all extra trains approaching and moving on curves and where view is obscured, looking out carefully at all points for track cars and men working on track without flag protection. Speed on curves must be such as to be able to stop within one-half the distance track is seen to be clear and whistle signal 14 (1) must be sounded frequently:

- Condon Branch;
- Tono Branch;
- Grass Valley Branch;
- Olympia Branch,
- Dayton Branch;
- Starbuck to Relief (on Tucannon Branch);
- Hooper Jet. to Connell (on Connell Branch);
- Alto to Bolles (on Pendleton Branch);
- Heppner Branch;
- Grays Harbor Branch;
- Pomeroy Branch;
- Umatilla Branch.

Unusual Conditions

101 (R). At Pilot Rock, trains and engines must move at restricted speed, keeping a lookout for cars on or foul of main track west of derail.

101 (S). On Bridge 365.32 over Spokane River and Latah Creek between West Spokane and Cowles, and on Bridge 271.70 over Snake River between Joso and Chew, trainmen and enginemen must watch train and track closely and be prepared to stop should an emergency arise.

Cars or Train Left Behind

102 (R). On portions of the division where there is no joint operation of trains with another company, in complying with Operating Rule 102 (A), if no light is available to be placed on front end of cars left behind, when conditions make it necessary, a trainman must remain at front end of such cars to signal engineer when returning.

Riding on Footboards of Engines

103 (R). 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 in direction the engine is moving, except as follows:

When the switches to be passed over can be plainly seen to be properly lined;

Where movement is over crossing protected by watchman on duty; Over street crossings at Portland, Albina, Kenton and on Second Street at East Portland;

At Umatilla, over public crossing just east of M.P. 184;

At La Grande, over Fir Street and Greenwood Street;

At Seattle, over Spokane Street, Harbor Island;

At Seattle, over Spokane Street, Alaskan Way;

Where through movement is made:

Between Rieth and Pendleton;

Between Argo and Seattle passenger station or local yard;

Along East Marginal Way, Seattle.

When Diesel-electric locomotive is used, a yardman or trainman may ride on side steps or platform in direction engine is moving instead of on leading footboard.

Public Crossings

103 (S). At public crossing protected by crossing watchman and crossing gates, yard crews must know gates are down and crossing protected before making movement onto or over the crossing. When not so protected the crossing must be protected by a member of the crew.

103 (T). At public crossings protected by automatic crossing signals, bells or gates, every effort must be made to avoid unnecessarily occupying controlling circuits or leaving switches open within the controlling circuits.

When a train, engine, or switching movement has been delayed or stopped within 1500 feet of such crossing, any further movement, either forward or reverse, toward the crossing must be made at restricted speed until it is determined that the crossing signals are operating for sufficient time to stop highway traffic. In case the crossing signals are not operating for the movement, crossing must be protected by a member of the crew, unless a crossing watchman is on duty.

When a train, engine or switching movement is to be made against the normal current of traffic over a public crossing protected by automatic crossing signals, bells or gates, a member of the crew must protect the crossing, unless a crossing watchman is on duty.

103 (U). At Bridal Veil, in switching tracks serving lumber company, movement over the two ramp crossings must be preceded by a member of crew.

At La Grande, eastward trains and engines on any track except main track must not exceed 10 MPH over street crossings at Fir and Greenwood Streets.

At Baker, street crossings at Campbell and Auburn Streets, east of depot, must not be blocked in excess of five minutes by freight trains.

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.

On Grays Harbor Branch, between 8 A.M. and 6 P.M. daily, all trains must approach M.P. 45 at restricted speed, expecting to find logging trucks crossing track at new spur.

103 (V). At The Dalles, public crossings must not be blocked longer than 10 minutes. When a train is to be delayed getting in or out of the yard, crossings must be cut immediately.

103 (W). At Barnhart, when movements are made over public crossing to ballast pit, a member of crew must be stationed in each direction to stop highway traffic.

103 (X). The following will govern trains and engines at the public crossings named below:

Location	Instructions
Spokane—Monroe Street.	Normal position of gate is across track. Movement must not be made until gate is open and proceed signal given from middle of street by a member of crew. Gate must be returned to normal position after each movement.
Spokane—Modena and Washington Street.	All engines using switching tracks must stop clear of crossing and member of crew will ascertain that flashing light signals are operating and bells ringing before proceeding over crossing. Cars must not be left within 30 feet on either side of crossing.
Spokane—Division Street.	Instructions for Monroe Street also apply at Division Street, except it is not necessary to send flagman ahead of train or engine when electric signals are operating covering movements on old main line. Unless absolutely necessary, movements across street must not be made between 6:00 AM and 8:00 AM, 11:30 AM and 1:30 PM, 5:00 PM and 7:00 PM. Between 6:00 AM and midnight, the number of movements across the street is limited to twenty, and the street must not be crossed when to do so would interrupt traffic.
Tekoa—County road at junction switch to McGoldrick's Spur.	Flagman must be on ground and stop traffic before movement is made over the crossing.

Handling Cars Ahead of Engine

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

Switches

104 (R). No. 14 turn-outs are installed at all dual control switches in CTC territory except siding switches at Hilgard, McEacham, Duncan, and west siding switch at Gibbon.

Other switches equipped with No. 14 turn-outs are indicated by a figure "14" on switch target.

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

La Grande: Joseph Branch switch—for drill track,
Switch to north side lead and roundhouse—for drill 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;

Hinkle, junction switch, Umatilla Branch—for running track;

Hinkle, wye switches—for running track;

Arlington, Condon Branch switch—for Condon Branch;

Crates, spring switch at end of double track—for eastward trains;

Kenton, cross-over switch—for extension;

Tacoma, Jct., junction switch—for C. M. St. P. & P.;

Aberdeen, switch at end of double track—for eastward trains;

South Montesano, wye switch on Montesano Branch—for west leg of wye;

Helsing Jct., junction switch—for U. P. main track;

Fairfield—switch to G. N. connection on siding—for G. N.;

Hooper Jct. (Connell Branch)—for line via Park;

Seltice—for line via Colfax;

Winona—for line via Colfax;

Tucannon—for line via Pataha;

Walla Walla passenger station, east switch to No. 2 track—for

No. 2 track when passenger equipment is left on No. 1 track;

East wye switch Pendleton Branch—for Wallula Branch;

Wye switch Wallula Branch—for movement to east leg of wye;

Yakima, Walnut Street—for main switching lead.

104 (T). At Tacoma, when cross-over switches from Northern Pacific double track to U. P. drawbridgeline are handled by trainmen, all such switches must be returned to normal position after movement is completed.

Electric Switch Locks

104 (U). Electric lock is in service on east switch of facing point cross-over between main tracks just west of the subway east of Spokane passenger station (compass directions).

If electric lock fails to release and no train movement is being made on the outward main track, or from Milwaukee roundhouse lead to outward main track, seal may be broken on electric lock and Milwaukee switch key inserted in opening at base of lock. When key is turned to the right, lock will be released. Failure of electric lock must be reported promptly to the Milwaukee chief dispatcher.

Main Track Derails

104 (V). Main track derails are located at the following points:

Pilot Rock (1500 feet west of west switch to new set out track)	} Deraill will be set in derailling position at all times except when movement being made over track at point where deraill located.
Pomeroy (opposite water tank) (90 feet west of section house)	
Dayton (100 feet east of depot) (150 feet east of west switch to cannery track)	} Deraill will be set in derailling position only when cars are left standing on main track above it.
McAdam (500 feet west of west switch)	
Wacota (500 feet west of west switch)	} Deraill will be set in derailling position only when cars are spotted to foul the main track, or when the warehouse track switches are set so as to permit loaders to drop cars west onto main track.
Estes (500 feet west of west switch)	
Sulphur (500 feet west of west switch)	
Wallace (M.P. 81.13)	} Spring switch point set in derailling position at all times and must be changed for eastward movement.
Wallace (350 feet east of depot)	
Gem (M.P. 84)	} Deraill will be set in derailling position only while switching is being done above it.
Burke (M.P. 86.3)	
Burke (M.P. 86.4)	} Deraill must be set in derailling position at all times when not being used.
Sierra Nevada Spur (300 feet east of refinery track switch)	
Sierra Nevada Spur (west of No. 1 track switch at zinc plant)	} Deraill will be set in derailling position only when cars are left standing on main track above it.

104 (W). At La Grande, while switching movements are being made on east end of drill lead, deraill and main power switch will be hand operated.

Speed Restrictions

105 (R). That part of last paragraph of Rule 93 reading, "(See Special Instructions, 105-R)" is changed to read, "(See speed restrictions in time-table.)"

Sidings

105 (S). At Hood River, when necessary to take siding, eastward passenger, mail and express trains will use cross-over from main track to siding.

105 (T). At stations where eastward and westward sidings are shown, the eastward siding is east of the westward siding.

Brakemen and Firemen Stopping Trains

106 (R). When conditions or signals require that the train be stopped or speed of train be reduced and the engineer or conductor fails to take proper action to do so, or should the engineer become incapacitated, brakemen and firemen must take immediate action to stop train.

Movements Against Current of Traffic

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

The Dalles—between Block Signals 867 and 838;

Albina and Portland—on parallel tracks between Portland and East Portland or Harding Street, Albina;

Spokane—between Union Station and cross-over near sand house at West Spokane.

D-151 (S). Unless otherwise instructed, all trains will be routed with current of traffic between East Portland and Albina. When trains are being handled by engines prohibited from moving with current of traffic and it is necessary to operate them over the other track, switch tenders at Albina and towermen at East Portland must see that movement is properly protected by notifying yard engines and other movements.

Train Order Signals

200 (R). Lights will not be kept burning at night in train order signals on branches when operators are not on duty, and trains must be governed by the day indication of such signals.

200 (S). At Kennewick, when train order signal displays Stop indication, stop must be made before engine passes train order signal unless proceed signal is received from operator.

Train Orders

208 (R). Except at initial stations, when a train's superiority is restricted for an opposing train at the point where the order is issued to it, the order 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 been notified that torpedoes have been placed. *In addition, the restricted train must be brought to a stop by operator, using red flag or red fussee, before the train dispatcher OK's the clearance.*

209 (R). Operators must not typewrite Union Pacific train orders or clearances.

Movement of Trains by Block Signals

261 (R). Movement of trains and engines between Helsing Jct. and Independence is governed by automatic block signals and when signals indicate Proceed, trains or engines may proceed regardless of first-class trains.

At Helsing Jct., when signal at junction switch displays Stop indication after junction switch is opened, westward C. M. St. P. & P. trains must comply with Operating Rule 509 (A) and Grays Harbor Branch main track must not be occupied except under protection in accordance with Operating Rule 99 against westward trains on Grays Harbor Branch.

Centralized Traffic Control System

266 (R). At Pendleton, trains from Pendleton Branch to extension of Track 6, must obtain permission from train dispatcher at La Grande before passing Signal 2165.

266 (S). At Encina, Telocaset and Kamela, Clearance Form B required by CTC Rule 266 need not be received by light engine leaving those stations, but movement must be governed by signal indication.

266 (T). Clearance Form B need not be received for movements in CTC territory between Wallula Jct. and Villard Jct.

267 (R). CTC Stop signals located as follows are designated as "starting signals":

Huntington—M.P. 389.3.

Baker —M. P. 341.7 and 342.4.

La Grande —M.P. 289.7 and 290.2.

When a train or engine is stopped by one of these signals, if movement is verbally authorized by dispatcher or operator, flagman must be sent ahead to next signal and movement must be made at restricted speed. Clearance Form C will not be required.

267 (S). When Stop indication is displayed on either of the following signals, in addition to receiving Clearance Form C, flagman must be sent ahead to next signal and movement must be made at restricted speed:

Eastward stop signal governing movement from joint track from Yakima Branch to Villard Junction;

Eastward stop signal, located just west of N. P. cross-over east end of Wallula, governing movement to Sixth Subdivision main track;

Westward stop signals governing movement over Yakima junction switch.

Approach Signal Indication

284 (R). Operating Rule 284 is changed as follows:

When an Approach indication is displayed on a block or interlocking signal, train or engine must proceed prepared to stop at next signal. Train exceeding 30 miles per hour must immediately reduce to that speed.

284 (S). On Spokane-Telco Branch, when a signal displays Approach indication, trains or engines must immediately reduce speed to one-half the authorized speed at that location, but not exceeding 20 miles per hour, and as much slower as necessary in order to be able to stop before passing the next signal.

Advance Approach Signal Indication

285 (R). Operating Rule 285 is changed as follows:

When an Advance Approach indication is displayed on a block or interlocking signal, train or engine must proceed prepared to pass next signal at not exceeding 40 miles per hour.

Staff System

301 (R). Movements of trains and engines on the Government trackage between Richland Junction (Yakima Branch) and yard limit sign on Government trackage at M.P. 43.8, are governed by staff system.

Divided staff, lettered "A" and "B", will be used and staff boxes are located at Richland Junction and at M.P. 43.8.

When only one train movement is to be made in the staff limits, dispatcher will notify the crew and that crew must have both staffs "A" and "B" in their possession and retain them for the round trip.

When two trains are to be run in these limits, the first train must not enter the staff limits until it has been ascertained that both staffs are in box at that point, and has taken staff "A" for their movement. Second train entering staff limits must have staff "B" in their possession.

After moving through the staff limits, both staffs must be left in staff box. Staff box must be left locked at all times.

Conductor of train which is to move, or has moved, through the staff limits, must register his train on train register at Richland Junction, and indicate staff used, either "A" or "B", or both.

Train or engine movements on Government trackage from end of staff system into interchange yard and wye at North Richland (which is ten miles from Richland Junction) will be governed by yard limit rules and instructions issued by Government dispatcher. When two trains are run, the first train arriving at interchange yard must remain at that point until the second train arrives.

302 (S). Movement of trains and engines on Olympia Branch between Olympia and East Olympia are governed by staff system.

One staff will be used and will be placed in staff box located near yard limit sign, Olympia. Trains or engines, in using branch main track outside yard limits, will secure this staff and retain it in their possession until movement has been completed.

Trains or engines will not be able to make movements out of East Olympia until the staff has been obtained from Olympia and is in their possession. Dispatcher will instruct crews how this staff will be secured.

Continued on opposite side.

302 (S). Continued.

After movements are completed, staff must be placed in staff box, and securely locked.

Automatic Cab Signal System

456 (R). Automatic Cab Signal Rule 456 does not apply when a train is proceeding after having been stopped by a block signal governing movement through a block in which slide warning detector fences are located. In such case, movement through the entire block must be made at restricted speed regardless of the fact that the cab signal changes to a less restrictive indication.

Slide Detector Signals

509 (R). On Yakima Branch, between M.P. 41 and M.P. 42, slide detector signals, designated by triangular number plates, are in service. When signal displays Stop indication, train must stop before passing and may then proceed at restricted speed to signal at opposite end of protected territory, looking out for damaged rail or obstruction, and wire report must be made to chief dispatcher and superintendent.

Block Signals

509 (S). Between Hinkle and Portland, Spokane and Hinkle and between Spokane and Manito, Operating Rule S-509 (A) applies.

509 (T). When a slide warning device plug is found pulled or controller operated but no obstruction on or damage to track is found, the plug must be replaced, if practicable, or controller re-set by depressing "Re-set" button, and conductor must make report to train dispatcher from first stop or first open telegraph office.

509 (U). At Marengo, dwarf signal governs movements from east leg of wye to main track. After switch is opened, signal will display yellow indication when block is clear, except when block is occupied west of Signal 3066, signal will not display yellow indication until three minutes after switch is opened.

Track Occupancy Indicators

512 (R). Trainmen must observe indication displayed by track occupancy indicators before changing derail or main track switch.

A switch must not be opened to permit a movement to a main track when Occupied indication is displayed, unless the movement is properly protected.

Indication displayed by track occupancy indicator is not authority for a train or engine movement, and does not relieve enginemen and trainmen from protecting the train as required by the rules.

Entering or Fouling Main Track

513 (R). In CTC territory, when movement to main tracks is authorized by train dispatcher, movement may be made without waiting three minutes after switch has been properly lined.

Standing on Sanded Rail

518 (R). Bus cars, light weight motor trains of three cars or less, any locomotive without cars, or cuts of less than four cars, must not be permitted to stand on sanded rails on main track or between the fouling point and the switch on sidings.

Remote Control Switches

526 (R). Remote control switches are located as follows: (See Rules 526 to 528.)

Location	Under control of
Troutdale, junction switch to freight line and east switch of siding on Kenton Line.	Operator, Troutdale
Hinkle, main track switch at west end of passenger yard.	Operator, Hinkle

Routes Through Interlocking

605 (R). To indicate the route to be used through interlocking, the following whistle signals will be used:

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 —————

Continued on page 9.

605 (R). Continued.

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 Kenton Line and North Portland Jct. Line, engineers 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

At N. P. Crossing, Spokane:

For Spokane Union Station. o o o
 For old yard. o o o o
 For East Spokane. o o o o
 For N. P. transfer. o o o
 For G. N. transfer. ——— ———

605 (S). At Troutdale, upper unit of interlocking signal, located just east of the junction switch, governs westward movements via Graham and the lower unit governs westward movements via Kenton line.

When lower unit displays a green light, movement is authorized on Kenton Line main track. When lower unit displays a lunar light, movement is authorized into Kenton Line siding.

Proceed indication of interlocking signal located just west of junction switch will authorize eastward trains from Kenton Line to proceed to train order office.

Interlocking

663 (R). Movement of trains and engines between St. Johns Jct. and Peninsula Jct. is governed by interlocking which is operated from St. Johns Jct.

When a train or engine is stopped by interlocking signal at junction of North Portland and Kenton Lines, member of crew must immediately notify operator at St. Johns Jct. If operator is unable to clear signal, he must communicate with train dispatcher who may authorize flagman to precede the train or engine, examine route and report to operator at St. Johns Jct. If track is clear, operator will then authorize train or engine to proceed at restricted speed.

A member of crew must obtain authority from operator at St. Johns Jct. before hand-operating any switch within interlocking limits and before hand-operating electrically controlled switch at junction of North Portland and Kenton Lines. After using electrically controlled switch, it must be restored to position in which it was found and operator at St. Johns Jct. notified.

663 (S). Movement over railroad crossing with Seattle main track M.P. 5.8, just west of Peninsula Jct., is governed by color light signals. Electric lock derails are in use. Trains or engines must obtain authority from operator at St. Johns for movement over this crossing, and operator will release electric lock for operation of derails. After movement is completed, derails must be restored to normal position and locked with switch lock and operator notified. If operator is unable to release electric lock, he may authorize member of crew to break seal on end of switch machine and unlock with switch key.

663 (T). When eastward interlocking signal located on cantilever at M.P. 3.3, Kenton Line, displays Stop indication, permission must be obtained from operator at St. Johns Junction before proceeding.

663 (U). At Columbia River Bridge, M.P. 7.44, Yakima Branch, when a train is stopped by semi-automatic interlocking signal, a flagman must be sent to drawbridge to give proceed signal if derail and draw span are properly closed. Two long sounds of engine whistle must be sounded before proceeding, and movement must be made at restricted speed.

672 (R). At Yakima River Bridge, M.P. 89.35, Yakima Branch, trains and engines are governed by automatic interlocking signals and must approach gauntlet track at restricted speed. A train or engine stopped by an interlocking signal must comply with Operating Rule 672. If signal does not change its indication after one minute,

Continued on opposite side.

672 (R) Continued.

flag protection must be provided for movement between home signals governing gauntlet track.

Actions While on Duty

701 (R). *Employes must not sleep while on duty. Lying down, or in a reclining position, with eyes closed or with eyes covered or concealed will be considered as sleeping.*

Passengers on Freight Trains

711 (R). The following passengers only may be carried on freight trains between stations at which the trains stop:

- Persons in charge of live stock or other freight when provided with proper transportation;
- Employes of Union Pacific Railroad with annual pass when traveling on company business requiring use of freight trains;
- Other persons with annual or trip pass only when endorsed "Good on Freight Trains";
- Passengers holding revenue tickets with permit issued by superintendent;
- Passengers with tickets on trains 365 and 366 between Dayton and Walla Walla.

Agents and conductors must notify passengers, stockmen, messengers and caretakers that they must ride in the place provided for them, and must not get on or off caboose, drover cars or other cars while train is in motion, and that in all cases the train will be stopped at designated points for this purpose.

Close Clearances

714 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or obstruction	Clearance of engine or car is close at—
At all stations.	Mail cranes.	Side.
First Subdivision		
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. 385.95.	Bridge.	Side.
M.P. 385.19.	Bridge.	Side.
M.P. 385.02.	Bridge.	Side.
Limo.	Overhead bridge.	Side.
M.P. 384.42.	Bridge.	Side.
M.P. 383.27.	Bridge.	Side.
M.P. 383.02.	Bridge.	Side.
M.P. 381.90.	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. 378.75.	Bridge.	Side.
M.P. 378.60.	Tunnel No. 6.	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.
Durkeo.	Standpipe.	Side.
Durkeo.	Water tank spout.	Side.
M.P. 366.74.	Bridge.	Side.
Pleasant Valley.	Water tank spout.	Side.
M.P. 343.94.	Bridge.	Side.
North Powder.	Two overhead bridges.	Side and top.
North Powder.	Water tank spout.	Side.
Tolocaset.	Water tank spout.	Side.
M.P. 312.07.	Overhead bridge.	Side.

Continued on page 10.

Location	Structure or obstruction	Clearance of engine or car is close at—
Second Subdivision		
La Grande	Second Street viaduct	Top.
M.P. 288.02	Bridge	Side.
Higard	Water tank spout	Side.
Motanic	Water tank spout	Side.
Kamela	Water tank spout	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.
M.P. 226.86	Bridge	Side.
M.P. 214.42	Bridge	Side.
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	Side.
M.P. 198.26	Bridge	Side.
Echo	Water tank spout	Side.
M.P. 187.2	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.
Third Subdivision		
Munley	Water tank spout	Side.
M.P. 182.4 (W. of Umatilla)	Bridge	Side.
M.P. 148.49	Bridge	Side.
Arlington	Water tank spout	Side.
Arlington	Standpipe	Side.
M.P. 114.3	Bridge	Side.
Day	Water tank spout	Side.
M.P. 104.46	Bridge	Side.
Ainsworth	Standpipe	Side.
M.P. 99.51	Bridge	Side.
M.P. 92.8	Overhead bridge	Side.
Fourth Subdivision		
The Dalles	Standpipes	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.
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.
M.P. 15.4	Overhead bridge	Top.
M.P. 10.3	Underpass handrails	Side.
M.P. 8.5	Underpass handrails	Side.
M.P. 4.5	Tunnel	Top and 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.
Portland	Depot umbrella shed	Top and side.
Fifth Subdivision		
Tacoma	N. P. overhead bridge to draw span	Top and side.
Tacoma	Viaduct	Top and side.
M.P. 144.92	Bridge	Side.
M.P. 146.93	Bridge	Side.

Continued on opposite side.

Location	Structure or obstruction	Clearance of engine or car is close at—
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. 5.77	Tunnel No. 26	Top.
M.P. 6.7	Overhead bridge	Top and side.
Olympia	Water tank spout	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. 53.33	Bridge	Side.
Aberdeen	Depot umbrella shed	Side.
Montesano Branch		
M.P. 0.31	Bridge	Side.
St. Johns Branch		
M.P. 6.93	Overhead bridge	Top and side.
Grass Valley Branch		
Biggs	Water tank spout	Side.
Wasco	Water tank spout	Side.
Grass Valley	Water tank spout	Side.
Hepner Branch		
Ione	Water tank spout	Side.
Cecil	Water tank spout	Side.
Sixth Subdivision		
M.P. 199.93	Bridge	Side.
M.P. 210.11	Bridge	Side.
M.P. 229.5	Tunnel No. 7	Top and side.
M.P. 235.02	Tunnel No. 8	Top and side.
M.P. 242.4	Tunnel No. 9	Top and side.
M.P. 275.1	Tunnel No. 10	Top and side.
M.P. 275.5	Tunnel No. 11	Top and side.
M.P. 276.0	Tunnel No. 12	Top and side.
M.P. 276.3	Tunnel No. 13	Top and side.
M.P. 276.5	Tunnel No. 14	Top and side.
M.P. 278.36	Overhead bridge	Top and side.
M.P. 281.3	Tunnel No. 15	Top and side.
M.P. 286.78	Overhead bridge	Top and side.
M.P. 292.1	Tunnel No. 16	Top and side.
M.P. 294.4	Tunnel No. 17	Top and side.
M.P. 305.62	Overhead bridge	Top and side.
Marengo	Oil tank spout	Top and side.
M.P. 325.70	Overhead bridge	Top and side.
M.P. 329.46	Overhead bridge	Top and side.
M.P. 337.20	Overhead bridge	Top and side.
M.P. 352.13	Bridge	Side.
M.P. 353.57	Overhead bridge	Top.
M.P. 353.94	Overhead bridge	Top.
M.P. 357.48	Overhead bridge	Top and side.
M.P. 357.95	Overhead bridge	Top and side.
M.P. 363.76	Overhead bridge	Side.
Spokane	Umbrella sheds	Side.

Continued on page 11.

714 (R). Continued.

Location	Structure or obstruction	Clearance of engine or car is close at—
Yakima Branch		
M.P. 7.44	Bridge	Top and side.
M.P. 11.52	Bridge	Side.
M.P. 14.16	Overhead bridge	Top and side.
M.P. 16.06	Bridge	Side.
M.P. 24.35	Overhead bridge	Top.
M.P. 35.89	Bridge	Top and side.
M.P. 53.36	Bridge	Side.
M.P. 56.83	Bridge	Side.
M.P. 58.03	Bridge	Side.
M.P. 58.19	Bridge	Side.
M.P. 73.03	Bridge	Side.
M.P. 73.20	Bridge	Side.
M.P. 73.30	Bridge	Side.
M.P. 89.35	Bridge	Top and side.
Union Gap	Overhead bridge	Top.
Yakima, First Avenue and C Street	Traffic light	Top.
Tekoa-Ayer Branch		
M.P. 17.23	Bridge	Top and side.
M.P. 19.96	Bridge	Side.
M.P. 26.73	Bridge	Side.
M.P. 77.23	Bridge	Top and side.
M.P. 90.27	Bridge	Top and side.
M.P. 93.01	Bridge	Side.
M.P. 94.70	Overhead bridge	Top.
M.P. 98.03	Bridge	Side.
M.P. 112.97	Overhead bridge	Top.
M.P. 115.79	Bridge	Side.
M.P. 115.86	Overhead bridge	Top.
Spokane-Tekoa Branch		
M.P. 143.67	Overhead bridge	Side.
M.P. 163.56	Bridge	Side.
M.P. 164.06	Bridge	Top and side.
Spokane	Market Street bridge	Top and side.
Spokane	Division Street bridge	Top.
Spokane	Tunnel, westward track	Top and side.
Spokane	Tunnel, eastward track	Top and side.
Moscow Branch		
M.P. 8.54	Bridge	Top and side.
M.P. 18.77	Bridge	Top.
M.P. 18.97	Bridge	Top and side.
M.P. 19.28	Overhead bridge	Top.
Wallace Branch		
M.P. 0.14	Bridge	Side.
M.P. 16.30	Bridge	Top and side.
M.P. 23.45	Bridge	Top and side.
M.P. 55.56	Bridge	Side.
M.P. 58.01	Bridge	Top and side.
M.P. 62.14	Bridge	Top and side.
M.P. 63.48	Bridge	Top and side.
M.P. 64.03	Bridge	Side.
M.P. 72.59	Bridge	Side.
M.P. 79.36	Bridge	Top and side.
Pleasant Valley Branch		
M.P. 1.51	Bridge	Top and side.
M.P. 41.21	Overhead bridge	Top.
Pendleton Branch		
M.P. 0.51	Bridge	Top.
M.P. 36.86	Bridge	Side.
M.P. 74.14	Overhead bridge	Top and side.
Wallula Branch		
M.P. 10.01	Overhead bridge	Top and side.
M.P. 14.32	Bridge	Side.
Connell Branch		
M.P. 15.13	Bridge	Side.
M.P. 15.71	Overhead bridge	Top and side.

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

Station	Location	
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.
Black River		C. M. St. P. & P.
Argo-Seattle	Argo yard lead and between Argo and Seattle passenger station.	C. M. St. P. & P.

714 (T). At south end of Union Station, clearance is very close and will not clear a man on side of car between tracks 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10, from interlocking signals to point 100 feet north of the crossing.

714 (U). On Grass Valley Branch, employees must not ride on the side of cars or engines while moving in trains, as there are a number of places on this branch where clearance is impaired by narrow cuts.

At Olympia, account insufficient clearance between N. P. connection scale track and main track, trains or engines must not attempt to pass on main track if trains or engines are moving on connection.

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

At Pullman, when switching Sutherland spur, trainmen should work on north side between spur track and main track; when switching team track should work on south side between team track and main track.

At Spokane Union Station, 3900 class cabooses must not be moved through umbrella sheds account insufficient clearance.

714 (V). At La Grande, look out for close clearance on Tracks 4 and 5, which have less clearance than other tracks in yard.

High and Wide Cars

714 (X). Trains handling cars or loads of excess height or in excess of 12 feet in width must keep close lookout for close clearances and where overhead or side clearance is doubtful, movement must be stopped and adequate protection provided.

Cars of excess height, as per stencil or placard, must not be switched with except in placing them in and taking them out of trains. In switching movements such cars must not be cut off while in motion, but must be shoved to a stop with air brakes operative. No one will be permitted to ride on top of such cars.

Loads of excess width must not be stored on nor moved over yard tracks where clearance is insufficient, unless there is an intervening track between trains or cars containing loads of excess width. No one will be permitted to ride on the side of such cars.

Unless otherwise instructed, cars of excess width or height must be handled in head end of train.

Trains handling wide loads must obtain meeting or passing order with other trains handling wide loads at stations where they will have a track between them.

When a train which is handling a wide load is notified by train order of another train handling a wide load, the train dispatcher must be notified so that meeting or passing point can be arranged.

Crews of trains receiving notice of wide load in other trains must inspect their train for open or swinging doors or anything projecting beyond normal clearance.

Handling of Explosives and Other Dangerous Articles

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

Placards on Cars

BE 589 (b). A car requiring car certificates and "Explosives", "Dangerous", "Dangerous-Class D Poison", "Poison Gas", or "Caution-Residual Phosphorus" placards under the provisions of this part shall not be transported unless such freight car is at all times placarded and certificated as required by this part. Placards and car certificates lost in transit shall be replaced at next inspection point and those not required shall be removed.

BE 589 (b). (1) At points where trains are inspected, cars placarded "Explosives" and adjacent cars shall be inspected; such cars shall continue in movement only when inspection shows them to be in condition for safe transportation.

Switching Cars Containing Explosives or Poison Gas

BE 589 (c). A car placarded "Explosives" or placarded "Poison Gas" shall not be cut off while in motion. No car moving under its own momentum shall be allowed to strike any car placarded "Explosives" or placarded "Poison Gas." No freight car placarded "Explosives" or placarded "Poison Gas" shall be coupled into with more force than is necessary to complete the coupling.

BE 589 (c). (1) When transporting a car placarded "Explosives" in terminals, yards, side tracks, or sidings, such cars shall be separated from the engine by at least one non-placarded car.

BE 589 (c). (2) Closed cars placarded "Explosives" shall have doors closed before they are moved.

Switching of Cars Containing Dangerous Articles

BE 589 (d). In switching operations where use of hand brakes is necessary, a placarded loaded tank car, or a draft which includes a placarded loaded tank car shall not be cut off until the preceding car or cars clear the ladder track and the draft containing the placarded loaded tank car, or a placarded loaded tank car shall in turn clear the ladder before another car is allowed to follow.

BE 589 (d). (1) In switching operations where hand brakes are used, it shall be determined by trial that a car placarded "Dangerous" or that a car occupied by a rider in a draft containing a car placarded "Dangerous" has its hand brakes in proper working condition before it is cut off.

Placement of Freight Cars Containing Explosives, in Yards, on Sidings, or Sidetracks

BE 589 (e). Cars placarded "Explosives" shall be so placed that they will be safe from all probable danger of fire. Freight cars placarded "Explosives" shall not be placed under bridges or overhead highway crossings, nor in or alongside of passenger sheds or stations except for loading or unloading purposes.

Notice to Crews of Cars Containing Explosives in Freight Trains or Mixed Trains

BE 589 (f). At all terminals or other places where trains are made up by crews other than road crew accompanying the outbound movement of cars, the railroad shall execute a consecutively numbered notice showing the location in the freight train or mixed train of every car placarded "Explosives." A copy of such notice shall be delivered to the train and engine crew and a copy thereof showing delivery to the train and engine crew shall be kept on file by the railroad at each point where such notice is given. At points other than terminals where train or engine crews are changed, the notice shall be transferred from crew to crew.

Position in Freight Train or Mixed Train of Cars Containing Explosives

BE 589 (g). In a freight train or a mixed train either standing or during transportation thereof, a car placarded "Explosives" shall, when length of train permits, be placed not nearer than the sixteenth car from both the engine or occupied caboose, except:

(1) When the length of freight train or mixed train will not permit it to be so placed, it shall be placed near the middle of the train.

Continued on opposite side.

726 (R). Continued.

(2) When transported in a freight train made up in "blocks" or classifications, a car placarded "Explosives" shall be placed near the middle of the "block" or classification in which moving, but not nearer than the sixth car from both the engine or occupied caboose.

(3) When transported in a freight train or a mixed train performing pickup and/or setoff service, it shall be placed not nearer than the second car from both the engine or occupied caboose, except as provided in paragraph (1) of this section.

Separating Cars Placarded "Explosives" From Other Cars in Train

BE 589 (h). In a freight train or a mixed train either standing or during transportation thereof, a car placarded "Explosives" must not be handled next to:

1. Occupied passenger car, other than car occupied by gas handlers or military personnel accompanying shipments.
2. Occupied combination car, other than car occupied by gas handlers or military personnel accompanying shipments.
3. Any car placarded "Dangerous" or "Dangerous-Class D Poison".
4. Engine.
5. Any car placarded "Poison Gas."
6. Wooden underframe car (except on narrow gauge railroads).
7. Loaded flat car. (Note: Flat cars equipped with permanently attached ends of rigid construction shall be considered as open-top cars. See subparagraph (8) of this paragraph.)
8. Open-top car when any of the lading extends or protrudes above or beyond the ends or sides thereof.
9. Car equipped with automatic refrigeration or any other apparatus utilizing an open-flame light or an internal combustion engine in its operation.
10. Car containing lighted heaters, stoves or lanterns.
11. Car loaded with live animals or fowl, occupied by an attendant.
12. Occupied caboose except as provided in paragraph (1) of this section.

Position in Train of Loaded Placarded Tank Car

BE 589 (i). In a freight train or a mixed train, except a train consisting entirely of placarded loaded tank cars and as provided in paragraph (j) of this section, a placarded loaded tank car shall when the length of the train permits, be not nearer than the sixth car from the engine, occupied caboose or passenger car.

BE 589 (i). (1) When the length of the freight train or mixed train will not permit it to be so placed, it shall be not nearer than the second car from the engine, occupied caboose or passenger car.

BE 589 (i). (2) When transported in a freight train engaged in "pickup" or "setoff" service, a placarded loaded tank car shall be not nearer than the second car from both engine or occupied caboose.

Separating Loaded Tank Cars Placarded "Dangerous" From Other Cars in Train

BE 589 (j). In a freight train or mixed train either standing or during transportation thereof, a placarded loaded tank car must not be handled next to:

1. Occupied passenger car, other than gas handlers accompanying shipment.
2. Occupied combination car, other than gas handlers accompanying shipment.
3. Any car placarded "Explosives."
4. Engine (except when train consists only of placarded loaded tank cars).
5. Any car placarded "Poison Gas."
6. Wooden under-frame car (except on narrow gauge railroads).
7. Loaded flat cars. (Note: Flat cars equipped with permanently attached ends of rigid construction shall be considered as open-top cars. See subparagraph (8) of this paragraph.)
8. Open-top car when any of the lading extends or protrudes above or beyond the ends or sides thereof.
9. Car equipped with automatic refrigeration or any other apparatus utilizing an open-flame light or an internal combustion engine in its operation.
10. Car containing lighted heaters, stoves, or lanterns.
11. Car loaded with live animals or fowl, occupied by an attendant.
12. Occupied caboose (except when train consists only of placarded loaded cars)

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726 (R). Continued.

Position in Freight Train or Mixed Train of Cars Placarded "Poison Gas" or Containing Poison Liquids Class A

BE 589 (k). In a freight train or mixed train either standing or during transportation thereof, a car placarded "Poison Gas" or containing poison liquids, Class A, shall not be next to other freight cars placarded "Explosives" or cars placarded "Dangerous."

Position in Freight Train or Mixed Train of Cars Placarded "Explosives" and "Poison Gas" or Containing Poison Liquids when Accompanied by Cars Carrying Gas Handling Crews

BE 589 (l). A car placarded "Poison Gas" or containing poison liquids Class A in drums, tanks or bombs, or a car placarded both "Explosives" and "Poison Gas" shall at all times be next to and ahead of the car occupied by gas handling crews, when accompanying such car.

BE 589 (l) (1) A car or cars placarded "Explosives" shall be next to and ahead of a car occupied by guards accompanying such car, except that when the car occupied by guards is equipped with a heater it shall be the fourth car behind the car or cars placarded "Explosives."

Cars Containing Explosives or Poison Gas and Tank Cars Placarded "Dangerous" in Passenger or Mixed Trains

BE 589 (m). Cars containing explosives, Class A, poison gases or liquids, Class A, and tank cars requiring "Dangerous" placards shall not be transported in a passenger train. Such cars may be transported in mixed trains but only at such times and between such points that freight train service is not in operation.

BE 589 (m). (1) Cars containing explosives, Class A, poison gases or liquids, Class A, and tank cars placarded "Dangerous" shall not be transported next to occupied cabooses or cars carrying passengers in mixed trains except as provided in paragraph (1) of this section.

BE 589 (m). (2) When a car containing explosives, Class B, or dangerous articles other than explosives requiring labels (not including Class A poison gases or liquids) is moved in a mixed train and such car is not occupied by an employe of the carrier, placards must be applied to the car as required by these regulations.

Position in Train of Cars Containing Class D Poisons

BE 589 (n). In a freight train or mixed train either standing or during transportation thereof, a car placarded "Dangerous-Class-D Poison" must not be handled next to cars placarded "Explosives" or next to carload shipments of undeveloped film.

Empty Tank Cars

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 "Dangerous" placards removed or replaced by "Dangerous-Empty" placards.

Open Flame Switch Heaters

726 (S). Cars loaded with explosives or flammable commodities must not be permitted to stand over open flame switch heater. If stop is made with such cars standing over open flame heater, flame must be extinguished.

Trains Stopped in Tunnels

733 (R). Dangerous gases present in exhausts from various types of locomotives, steam generators, or engines of the Waukesha type, may cause incapacitation or fatalities if in sufficient concentration as might result when a train is stopped in a tunnel.

In the event a passenger train, regardless of the type of power being used, is stopped in a tunnel, cars within the tunnel must have air circulating systems, including air conditioning systems, ice machines and engine generators, shut off, fresh air intake shutters closed, and blower fans shut off.

Certain gases are not readily detected by odors and this action must be taken immediately and time not wasted in determining when train may be started. Take safe course and act at once.

Train dispatcher should be notified immediately so that proper arrangements can be made for protection of persons and equipment.

733 (S). When a diesel or turbine locomotive is stopped in a tunnel under conditions preventing prompt movement, engines must be promptly shut off.

Local conditions must be carefully considered, as there may be situations where the exhaust gases are being carried away from the train by air currents, or where proximity to tunnel opening would make it unnecessary to shut off these engines. Safety of passengers and members of the crew must be the first consideration.

Shutting Down Engines of Diesel Locomotives

733 (T). When diesel switch locomotive is to be idle in excess of 30 minutes, engine must be shut down. When diesel road locomotive is to be idle for one hour at initial or intermediate stations, engines must be shut down.

EXCEPTION: In such cases, engines must not be shut down when outside temperature is below 35 degrees.

When diesel engines are shut down at terminals when a heavy rain is falling, enginemen will call on mechanical forces for covers to be placed over exhaust stacks.

733 (U). When engines of diesel locomotive are shut down, or turbine and its auxiliary engine are shut down, air brakes must be fully applied and, in addition, front and rear of a traction wheel must be blocked, hand brake applied on each unit, and sufficient hand brakes must be applied throughout the train to prevent movement should air brakes leak off.

During freezing weather, when diesel engines are shut down, cooling water must be drained to winter level and, if necessary to prevent damage to engine, must be drained completely.

Power Transmission Wires

734 (R). Power transmission wires carrying 2300 volt. circuit are located on top arms of signal pole lines and on top arms of joint telegraph and signal pole lines.

Diesel Locomotives

735 (R). Adjustments must not be attempted nor made in high voltage cabinets of diesel locomotives until engine has first been isolated and stopped and units have come to a stop.

735 (S). When a diesel locomotive consisting of two "A" units operated rear end to rear end, with or without "B" unit or units, is to be moved in yards or around enginehouses, locomotive must be operated from lead "A" unit according to direction in which movement is to be made, except when movement is protected by a trainman or yardman.

735 (T). When diesel units are operating with less than full complement of motors or when it is necessary to cut out one or more of the motors at any time enroute, train dispatcher must be notified at first stop or first open telegraph office.

735 (U). When necessary to break seals on equipment and control lockers on diesel road units, notation must be made on engineer's work report with explanation of necessity for breaking seals.

735 (V). On diesel and turbine locomotives in road service, not more than five men may ride in control cab.

Unauthorized persons, including deadhead train and engine men must not occupy cab of trailing unit of diesel locomotive on any train.

735 (W). On diesel locomotives, side and end doors of engine rooms must be kept closed while the locomotives are moving.

Dead Engines

740 (R). When handling dead or disabled steam locomotive in train, when length of train will permit, it must be placed 12 cars behind road locomotive; when two or more dead or disabled steam locomotives are in train, they must be separated from road locomotive and each other by at least 12 cars.

Shay, Climax, Heisler and similar type engines, when not in gear, may be handled at speed permitted for freight trains unless waybill specifies a lower speed, or attendant makes written request for a lower speed.

Helper Engines

741 (R). Helper locomotive on passenger train must be coupled ahead of train locomotive, and will not be placed on rear of passenger trains except in case of emergency or unusual circumstances, then only for such distance as it is safe.

On freight train, when not used on head end, helper locomotive must be cut in on rear as close ahead of caboose as conditions permit but always ahead of cars listed in Special Instruction 802 (R).

741 (S). Locomotive in helper service equipped with pilot plow requiring extension coupler must be placed at head end of train.

741 (T). On freight trains with all-steel caboose, helper locomotive, but not more than one, may be used behind caboose when there are no cars listed in Special Instruction 802 (R) in train.

Not more than five diesel units may be on head end of train and trains will not be double headed except as follows:

From Huntington to Durkee;
From Baker to Telocaset;
From La Grande to Union Jct.;
From Hinkle to Gibbon;

Trains handling not to exceed 4500 tons, between Union Jct. and Telocaset, and between Baker and Encina.

When not used on head end of train, or behind all-steel caboose as provided above, helper locomotive must be cut in on rear of train as close ahead of caboose as conditions will permit, but always ahead of cars listed in Special Instruction 802 (R).

Not more than four diesel helper units may be used on rear of train immediately ahead of or behind caboose.

If necessary to use more than four diesel helper units, the others must be cut in ahead of the tonnage of the helper on the rear of the train.

Flangers on Snow Plows, etc.

800 (R). Flangers on snow plows, spreaders and locomotives must be raised when passing over bridges, highway crossings, railroad crossings, frogs and switches and through interlocking limits.

Position of Cars in Trains

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

Drover cars, occupied or unoccupied;
Wooden underframe cars;
Scale test cars;
Any car unsafe to be handled in head end of train;
Cars with emergency couplers;
Cars tagged "Handle Only at Rear End of Train";
Outfit cars.

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

When passenger express refrigerator cars are handled in trains consisting of 75 cars or more, such cars must be handled in rear of train not more than 15 cars from caboose.

Livestock must be handled in head end of train when practicable.

802 (S). Open top or flat cars loaded with pipe, lumber, poles or other lading which has tendency to shift, must not be handled in train next to locomotive or caboose.

Cars on Sidings

804 (R). On Sixth Subdivision, cars may be placed for loading and storage on all industrial tracks, and all sidings equipped with derails when authorized by chief dispatcher.

Cars Partly Loaded or Unloaded

805 (R). All persons are prohibited from riding in cars while being switched, which are in the process of being loaded or unloaded. Part loads will not be switched unless properly broken down or properly braced to prevent contents falling and being damaged. Before switching with or moving cars which are in the process of loading or unloading, persons working in or about the cars must be notified and trainmen and yardmen must see that cars are not switched with until cars are vacated. When such cars are moved, they must be returned to their former location unless otherwise directed.

Chaining Cars to Rail

806 (R). Between Huntington and Pendleton, when cars are set out on sidings on grade where there are no derails, in addition to setting hand brakes and blocking wheels, cars must be chained to rail. When cars are picked up, crew must take chain to terminal.

Cars with Bad Order Couplers

811 (R). Freight cars with bad order couplers may be handled behind caboose to destination or to first terminal, provided the good coupler can be coupled to caboose and, in addition, has air brakes and hand brakes operative.

If air brakes are not operative, the good coupler must be coupled to caboose and in addition must be secured by chain. When so handled, a trainman must ride car on ascending grade.

If coupler is pulled out, draft gear housing must be removed if possible. When this cannot be done, conductor must know that housing is securely fastened.

Hot Boxes

812 (R). When a hot box is detected on a train between stations, in addition to Operating Rule 812, the following will govern:

As quickly as hot box is detected train must be stopped, hot box inspected and no attempt made to run to next station until it has been ascertained it is safe to do so.

When a car is set out account hot box, packing must be removed and fire extinguished. In addition, conductor must ascertain that there is no fire on car body and that dust guard is not burning nor smoldering, taking whatever action necessary to preclude possibility of fire before car is left.

Inspection of Trains

812 (S). On locomotive, tender and freight car wheels, flat spots two and one-half inches or longer, or if there are two or more adjoining spots each two inches or longer, and on passenger cars including streamline train equipment one inch or longer, are condemnable and when discovered in train, conductor or engineer must immediately report to chief dispatcher and be governed by his instructions.

812 (T). When stop is made by a passenger train due to some condition affecting the equipment of that train, a thorough inspection of the train must be made before proceeding.

812 (U). Leaving designated inspection points, a trainman must be at head end of train and make careful inspection of train as it pulls by, giving particular attention to brake equipment.

In addition to a thorough inspection of freight train at all designated inspection points, such walking and roll-by inspection as time will permit must be made at all stops. Walking inspection will continue until entire train is inspected or until movement starts.

812 (V). When a train is stopped to be met or passed by another train, crew of standing train must make thorough inspection of passing train. When safe to do so, head brakeman must cross track and inspect passing train from the farther side and rear trainman or conductor must inspect the passing train from side nearest his own train. Crew on passing train must be in position to receive signals and take immediate action when necessary.

812 (W). Freight trains must stop and entire train must be inspected in accordance with Operating Rule 812 at the following points:

Encina	—Eastward and westward;
Kamela	—Eastward and westward;
Castle Rock (or at Kelso or Longview Jct. when train stops for other purpose)	—Eastward;
Rocky Point (or at Castle Rock or Kalama when train stops for other purpose)	—Westward;
Bonneville (or Dodson, Cascade Locks or Wyeth when train stops for other purpose)	—Eastward.

812 (X). In addition to inspection required by other rules, streamline trains must be given close running inspection by rear trainmen and enginemen on the following curves:

First Subdivision—	
	M.P. 363 and M.P. 364.5 —single curve;
	M.P. 326.5 and M.P. 327.5 —single curve;
	M. P. 302.4 and M.P. 303 —single curve.
Second Subdivision—	
	M.P. 281.5 and M.P. 282 —single curve;
	M.P. 257.2 and M.P. 257.8 —single curve.
Nolin	M.P. 197.8 to M.P. 198.6 —reverse curves;
Echo	M.P. 191.6 —single curve;
Third Subdivision—	
Westland	M.P. 180.1 —single curve;
Castle-Peters	M.P. 159.5 to M.P. 161.4 —reverse curves;
Arlington	M.P. 138.2 —single curve;
Blalock	M.P. 129.4 to M.P. 130.0 —reverse curves;
Biggs	M.P. 103.8 —single curve.

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812 (X). Continued.

Fourth Subdivision—

Mosier	M.P. 68.8 to M.P. 69.2	—reverse curves;
Wyeth	M.P. 49.3 to M.P. 49.7	—reverse curves;
Troutdale	M.P. 14.9 to M.P. 15.9	—reverse curves.

After rear trainman has completed inspection on the above curves, if everything is all right, he must give engine crew hand signal to proceed; this signal must be acknowledged by two long sounds of engine whistle.

If anything unusual is detected, train must be stopped and walking inspection of train must be made before proceeding.

N. P. Air Brake Rules

814 (R). On tracks operated by Northern Pacific Railway, Northern Pacific air brake rules will apply.

Switching Cars With Air Brakes Cut In

815 (R). Air must be cut in and automatic brake used when switching passenger train cars and occupied outfit cars; however, independent or straight air brake may be used when making couplings. Engineman must exercise care to avoid rough handling.

Passenger Trains Backing Up

817 (R) On passenger trains backing up between Portland and East Portland, a trainman must be stationed on rear of train ready to apply brakes in emergency. Air whistle must be sounded when approaching Front Street, Portland, and at other points where conditions require.

Movements on Leads and Yard Tracks

820 (R). At Huntington, La Grande, Pendleton, Hinkle, The Dalles, Kenton, Albina, Argo, Ayer, Walla Walla, Wallula, Yakima, Tekoa and Spokane, road engines and trains and yard movements approaching leads, must stop before fouling lead unless it is known that switches are properly lined and lead is clear.

Before a train starts out of yard track, brakeman will precede the movement to a point where it is known route is clear.

Before a light engine starts out of yard track, the engineer and fireman must know that switches are properly lined and that route is clear.

Track Scales

821 (R). Locomotives must not be moved over live rails of track scales and when moved over dead rails of track scales, a speed of 5 MPH must not be exceeded.

Sanders or injectors must not be used over track scales and locomotives or cars must not stand on dead rail over scale deck or platform of track scales.

Cars to be weighed must be stopped on scales and uncoupled at both ends while being weighed, except on scales equipped with automatic weighing device.

Cars must not be violently stopped by impact, sudden application of brakes or by blocking wheels. After cars are weighed, they must not be moved over live rails if possible to avoid it. When making impact with cars on scales, speed must not exceed 2 MPH and 4 MPH must not be exceeded over scales in any case.

Cars on live rail must not be moved by other cars or engines moving on dead rail, or vice versa. Cars must not be moved over scale with one truck on live rail and other truck on dead rail.

Caboose Tracks

822 (R). At Huntington, La Grande, Hinkle, The Dalles, Albina, Argo, Ayer, Walla Walla, Yakima, Tekoa and Spokane, caboose track switches must be kept lined and locked for running lead. Before coupling to caboose on such tracks, caboose supply employes on or about cabooses must be warned before couplings are made.

Drover Cars

823 (R). Trains handling 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. Switching must not be done with drover cars, except in handling to or from trains.

Coupling Passenger Cars

824 (R). When coupling an engine or cars to passenger equipment, coupling must be tested by stretching slack after coupling is made.

After coupling to cars standing on grade, slack must be stretched and it must be known that air brakes are fully charged before releasing hand brakes.

After coupling a tight lock coupler to any coupler, it must be seen that knuckle is securely locked in closed position.

When coupling other type coupler to tight lock coupler, knuckle on tight lock coupler must be closed and knuckle on other coupler must be open, to be closed by impact of car.

After cars are coupled, tight lock couplers must be inspected to see that tell-tale hole is visible just below bottom of coupler head and that knuckle is locked.

Position of Brakemen on Trains

854 (R). On freight trains, the head brakeman must ride in control cab of locomotive at front of train except while performing duties requiring him to be elsewhere as specifically provided by rules.

On diesel or turbine locomotive, when necessary for head brakeman to ride elsewhere than in control cab, he will immediately return to control cab on signal from engineer. When fireman is patrolling engine rooms when train is in motion, head brakeman must remain in control cab during fireman's absence and must observe signals and other conditions prescribed by Rule 812.

When necessary for trainmen to ride in cab of trailing diesel unit, they must not occupy engineer's seat and must not tamper with nor manipulate any of the switches or valves nor place feet on dashboard or windshield.

854 (S). On trains moving over Willamette River Bridge, trainman must be on rear car.

Closing Doors on Freight Cars

900 (R). Referring to Operating Rule 900:

Conductors will be held responsible for knowing that doors on cars in their train are properly closed. When necessary to close doors found open, hasps and locking mechanisms must be operated to keep secured. When doors of cars in train, or on cars to be picked up, cannot be closed by trainmen the car must be considered as bad order and car set out. Wire report of such occurrence must be made to superintendent, chief dispatcher and car foreman.

Engine Supplies

920 (R). On portions of the division where there is no joint operation of trains with another company, red light in cab of engine will not be required.

Movements Around Fueling Tracks, Etc.

920 (S). Before moving an engine and during movement of an engine in the vicinity of fueling and servicing tracks, engineers and hostlers must sound whistle to warn men working about such tracks.

Fireman Handling Locomotive

923 (R). Referring to Operating Rule 923: Engineers must not permit any unauthorized person to handle the locomotive. The fireman, when competent, may handle the locomotive when in road freight and yard service under the supervision of the engineer, the engineer being responsible. The fireman must not be permitted to handle the locomotive when in road passenger service, except in emergency.

Leaving Locomotives Unattended

923 (S). Locomotive must not be left without a man in charge, except at designated places and under authorized conditions. Locomotives must not be left standing so they will block or foul adjacent tracks.

When locomotive coupled to cars is left unattended, hand brakes must be set on not less than ten cars, or on all cars in case locomotive is coupled to only ten cars or less.

When a diesel or turbine locomotive is left unattended, reverse handle must be placed in neutral position and handle removed, independent brake set in full application position, generator field switch pulled and hand brake set on each unit, and it must be known that there is the required brake cylinder pressure.

Speedometers

928 (R). On locomotive equipped with speedometer, engineer must verify accuracy of speedometer not less than twice during each trip, by using watch to make time check between mile posts.

First check will be made at first opportunity after departure from point where engineer takes charge of locomotive. Care should be exercised to make check while speed is constant between mile posts. and, when possible, speed should be 30 MPH or over.

When check indicates speedometer is not registering correctly, wire report must be made to train dispatcher, master mechanic, and assistant superintendent in charge of district promptly as possible, giving miles per hour that speedometer is slow or fast.

Inspecting Locomotives

928 (S). When standing at inspection points, and when stopped in yards and at points between terminals where time will permit. Engineers must get on ground and inspect both sides of their locomotive. This applies to both passenger and freight trains, and to any type of locomotive.

Patrolling Diesel Engine Rooms

932 (R). On diesel locomotives in road service, fireman must patrol engine rooms and make inspection of engine, temperatures, steam heat facilities and other parts, and give such attention as may be required. Any unusual condition or irregularity detected must be reported to engineer, and fireman must be governed by engineer's instructions.

Patrol of engine rooms must be made at initial stations and at other stops, but when time between stops is 30 minutes or more, and at such other times as may be directed by engineer, fireman must patrol engine rooms while train is in motion.

Exception: Fireman must remain in control cab at all times while the train is in motion, and his patrol of engine rooms must be made at initial stations and at other stops when time will permit, as follows:

● On diesel road-switch or switch locomotives in road service.

934 (R). Passenger type diesel locomotives number 900 to 999, inclusive, are not permitted to operate on any Branches except:

Walla Walla Branch
Pendleton Branch—between Walla Walla and Pendleton
Tekoa-Ayer Branch
Pleasant Valley Branch
Connell Branch—between Hooper Jet. and La Crosse
Spokane-Tekoa Branch
Wallace Branch
Moscow Branch

Diesel locomotives 1100 to 1153 and 1180 to 1190 are not permitted to operate through Spokane Union Station.

Diesel locomotives 100 to 244, inclusive, must not operate on following tracks:

Location	Name of Track
Pendleton	Harris Mill Log Dump Track
The Dalles	East Ship Way Spur
East Portland	Canada Dry Spur—44th St.
East Portland	Doernbecher's Spur No. 1
Kenton	Smithwick Spur
Kenton	Sunshine Biscuit Spur
Albina	Swan Island
Argo	Balloon Track and various spurs
Seattle	Various Spurs along 5th Ave.
Seattle	Various Spurs along East Marginal Way
Seattle	Various Spurs on 11th Ave. S. W.
Seattle	Various Spurs on Alaskan Way
Wallowa	Both legs of wye
St. Johns Branch	Willamette Tug & Barge Spurs on River Side
St. Johns Branch	Western Cooperage Spur
Terminal No. 4	Various Spurs and Crossovers
Oregon Ship Yard	Various Spurs and Crossovers
Electro Metallurgical Co.	Various Spurs and Crossovers
Aberdeen	Various Front St. Spurs
Hoquiam	Grays Harbor Chair Spur
Olympia	Olympia Brewery Spurs
Walla Walla	Pacific Fruit Spur
Walla Walla	Walla Walla Gardeners Spur
Walla Walla	Pacific Supply Co-op.
Walla Walla	Walla Walla Cannery
Walla Walla	Jefferson St. Connection Libbys.
Walla Walla	Mill Spur.

934 (S). Steam Derrick 03041 can be used only on main line and the following Branches:

Joseph Branch
Umatilla Branch

934 (T). Cars weighing in excess of 200,000 pounds not permitted between Dayton and Turner on Dayton Branch, between Hooper Jet. and Connell on Connell Branch.

Cars weighing in excess of 210,000 pounds not permitted on Stuck River Bridge, Fleischman Yeast Co. spur at Sumner.

Cars weighing in excess of 240,000 pounds not permitted on Condon Branch, Heppner Branch and on Bridge 3.80S at Waitsburg, Dayton Branch.

Exception: Pile driver 0321 weighing 222,200 pounds, may be handled on all branch lines except between Hooper Jet. and Connell on Connell Branch.

When handling pile driver 0321, or a car weighing 200,000 pounds gross over Bridge 17.23 at Riparia, there must be at least four cars between such car or pile driver and engine or between such car or pile driver and any car weighing more than 160,000 pounds gross.

When handling derrick 0310 there must be at least five cars between derrick and locomotive, or between derrick and any car weighing more than 240,000 pounds gross.

Rules for Hostlers

936 (R).

(1) Hostlers must comply with rules for engineers and all other employes that relate in any way to their own duties or to the safety of operation.

(2) Hostlers are in charge of their helpers and attendants and must know they are familiar with and perform their duties; instruct them if necessary and caution them as to risks; inefficiency or insubordination must be reported to the proper officer.

(3) Hostler must not move an engine or any part of its machinery unless he knows it can be done without injury to anyone.

(4) Hostler must not permit any unauthorized person to handle an engine.

(5) Before moving an engine from coal chute, fuel oil or water standpipe, hostler must know that chute or spout has been removed from engine tank and securely fastened in proper position.

(6) While switching or moving an engine on roundhouse tracks, hostler must be able to see his helper or attendant at all times.

(7) Hostler must know that track to be used is not restricted for class of engine being handled.

(8) Engine must be stopped immediately before moving on to turntable and receive signal from helper or turntable attendant located at receiving end of table to move on to table. At night, signals must be given with white light.

Terminal Tests of Air Brakes

1000 (R). Changes have been made in Rules and Instructions Governing Operation of Air Brakes, Forms 7170 and 7172:

Definition—Initial Terminals are terminals at which a train is made up; a terminal at which the locomotive or consist of train is changed, or a terminal at which a train is received from a foreign line.

If the locomotive is equipped with pressure maintaining feature, it is mandatory by AAR-JCC rules that this feature is in operation while terminal test of train brakes is made.

Air brake tests may be made on freight trains when the air brake system is charged to within 10 pounds of standard pressure for that train, as indicated by an accurate gauge connected to brake pipe at rear end of train. All other requirements of Rules 1021, 1025 and 1230 (K) remain unchanged, except as follows:

Rules 1025 and 1230 (K): Procedure for making Initial Terminal Tests of Air Brakes with pressure maintaining cut in, if locomotive is so equipped, will be as follows:

Upon receipt of proper request or signal to apply brakes for test, make a 15-pound brake pipe reduction from pressure indicated by locomotive gauge, then after 8 to 10 seconds make a further reduction of 10 pounds and sound locomotive whistle to indicate brakes are applied for test.

Continued on page 17.

1000 (R). Continued.

During time inspection of train brakes is being made, equalizing reservoir gauge must be carefully observed to detect any increase in this pressure. If any increase is noted, it must be promptly reduced by momentarily placing handle of brake valve in service position to reduce this pressure to the level of the reduction made. It may be necessary to repeat this movement of brake valve handle a few times to hold the equalizing reservoir pressure constant. During terminal test this is important as any slight increase in equalizing reservoir pressure may cause one or more brakes to release.

When signal is given by inspector to release brakes, "First Service" cutout cock must be placed in "Out" position and brake pipe leakage checked for one minute. If leakage does not exceed 5 pounds, "First Service" cutout cock must be placed in "In" position, then give two long sounds of locomotive whistle and release brakes.

Rule 1026 (A): When a freight train has been tested from a yard charging plant, and after locomotive equipped for pressure maintaining has been attached and air brake systems recharged, procedure for testing brakes will be as follows:

With pressure maintaining cut in, make a 15-pound brake pipe reduction from pressure indicated by locomotive gauge, then after 8 to 10 seconds make a further reduction of 10 pounds and give one long sound of locomotive whistle. Inspectors must see that brakes are applied on each car, and if so, release signal must be given for engineman to release brakes, then each brake must be inspected to see that all have released.

Rule 1230 (D) and 1230 (F): Streamline trains at Cheyenne, Green River, Ogden, Pocatello, Ellis and Las Vegas, test of train air brakes must be made as prescribed by currently effective Rule 1230 (D). At all other terminals, except initial terminals where engine crew or train crew only is changed, test of train air brakes must be made as prescribed by revised Rule 1230 (F) as follows:

After train has stopped, incoming engineman must make a 20-pound brake application as indicated by brake cylinder gauge if electro-pneumatic brakes are being used, or a 20-pound brake pipe reduction if automatic brakes are being used. Inspection of brakes must then be made starting from rear end of train to determine if brakes are applied on each car, and if so, upon reaching head end of train, inspector must inform outbound engineman who will then release brakes. Upon proceeding, roll-by inspection must be made by inspector to determine that all brakes have released. All other requirements of present Rule 1230 (F) not conflicting with the above remain unchanged. Standing inspection must be expedited all possible while crews are being changed to avoid unnecessary delay.

Air Brake Rules

1006 (R). Engines in freight or mixed train service will carry 90 pounds brake pipe pressure on the First and Second Subdivisions, Sierra Nevada Spur, between Wallace and Burke and on descending grades between Crest and Colfax. Alto and Bolles, Weston and Barrett, Lovell and Chatecolet, Relief and Starbuck, and on Grass Valley and Condon branches and in mixed train service on Bend Branch.

1030 (R). Where Sperry rail-detector car is working when temperature is below freezing, trains, engines and track cars must be operated at a safe speed, using sand where necessary to overcome slippery condition caused by use of calcium chloride solution by rail car.

1035 (R). Running test as prescribed in Air Brake Rules 1035, 1035 (A), 1035 (B) and 1035 (C) must be made before descending grades as follows:

Encina	—westward and eastward;
Telocaset	—westward and eastward;
Kamela	—westward and eastward;
Fourth Subdivision	—westward trains at M.P. 6 east of Graham;
Condon Branch	—westward trains at Specce, Mikkalo and Shutler;
Grass Valley Branch	—westward trains at Kent, M.P. 34, Klondike and Wasco;
Grass Valley Branch	—eastward trains at Sandon and M.P. 35;
Bend Branch	—westward trains at M.P. 100;
Spokane-Tekoa Branch	—eastward trains at Darknell and Freeman;
Tekoa-Ayer Branch	—westward trains at Jerita; —eastward trains at Crest;

Continued on opposite side.

1035 (R). Continued.

Pendleton Branch

—eastward trains at Weston;

—westward trains at Alto;

Wallace Branch

—eastward and westward trains at Watt;

—eastward trains at Burke.

1036 (S). At Spokane Union Station, passenger trains will make running air test only after leaving the elevated structure.

1036 (R). To prevent undesired emergency brake applications, engineers should be governed by the following in making the initial brake pipe reduction of 6 to 8 pounds when braking conventional passenger trains in accordance with Air Brake Rules 1036, 1036-A, 1036-B and 1036-C.

"When applying brakes for making ordinary slow-downs or stops, the air gauge must be observed for measuring reductions and the initial reduction should be from 6 from 70, 7 from 90, and 8 from 110 pounds as indicated by equalizing reservoir gauge."

1040 (R). Before descending grade Jerita to Hay, Mica to Chester and Watt to Lovell, after stop has been made, brakes must be fully applied and before proceeding it must be known that brake pipe pressure is restored as indicated by caboose gauge, and that rear brakes are released. In the absence of caboose gauge, application and release test of brake on rear car must be made as prescribed in Air Brake Rule 1040.

1041 (R). Brake pipe test as prescribed in Air Brake Rule 1041 must be made on all freight and mixed trains before descending grade on Condon Branch between Barnett and Rock Creek and on Grass Valley Branch between Biggs and Klondike, and this test must 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 when train has been standing for 30 minutes or more.

Brake pipe test, as prescribed in Air Brake Rule 1041, must be made on all freight trains before descending grade Weston to Barrett, Relief to Starbuck, Alto to Menoken, Crest to Colfax, Watt to Chatecolet, Burke to Wallace, Sierra Nevada Branch end of track to Bradley, Encina, eastward and westward, Kamela, eastward and westward.

1042 (R). Retaining valves must be used on descending grades as follows:

Condon Branch, all trains, M.P. 35 to Arlington, all retaining valves must be used.

Grass Valley Branch, on passenger trains Thornberry to Biggs, and on freight or mixed trains 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 Jct., trains averaging not to exceed 50 gross tons per car may be handled without use of retaining valves. 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 descending grades Mica to Chester and Darknell to Rockford and on freight and mixed trains Jerita to Hay, Alto to Menoken, Turner to Dayton, trains averaging not to exceed fifty gross tons per car, may be handled without the use of retaining valves. On trains averaging to exceed fifty gross tons per car, one-half of all retaining valves must be used. Retaining valves must be used consecutively from head end of train.

On all trains Crest to Colfax, Relief to Starbuck, Weston to Barrett, Burke to Wallace and Sierra Nevada Branch end of track to Bradley, all retaining valves must be used.

Freight trains descending grades between Watt and Lovell and between Watt and Chatecolet, if engineer finds it difficult to control train or to recharge train, he will request train crew to turn up sufficient retaining valves to insure safe control of train, stopping train if necessary.

On freight trains, trainmen must patrol top of train where retaining valves are used.

1042 (S). When retaining valves are used, freight and mixed trains will use five minutes moving first mile after turning up retaining valves, 4 minutes moving second mile and 3 minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

1042 (T). On the following branches, gross weight of train, exclusive of engine, must not exceed an average of sixty-five tons per effective brake:

Tekoa-Ayer Branch—between Crest and Colfax;
Pendleton Branch ---between Weston and Barrett;
Tucannon Branch ---between Relief and Starbuck.

1042 (U). Retaining valves must be used on trains handled with diesel locomotives with dynamic brake not in operation or when not equipped with brake valve modified for pressure maintaining when descending grades, as follows:

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

Freight trains descending grades between Encina and Durkee 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 engineer finds it difficult to control 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 Jet., 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. 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.

When retaining valves are used, freight and mixed trains will use five minutes moving first mile after turning up retaining valves, four minutes moving second mile and three minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

1042 (V). On locomotives equipped with pressure maintaining feature and dynamic brakes, both of which are operative, trains will be handled on descending grades between Durkee and Huron without the use of retaining valves.

Following will govern the use of retaining valves on freight trains when handled on descending grades by diesel locomotives equipped with dynamic brake in operation without pressure maintaining feature:

(a) Westward between Kamela and Huron and eastward between Kamela and Hilgard:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
1375 tons or less: None. Over 1375 tons: One retaining valve must be used for each 55 tons in excess of 1375 tons, but not less than 15 retaining valves must be used.	2063 tons or less: None. Over 2063 tons: One retaining valve must be used for each 55 tons in excess of 2063 tons, but not less than 15 retaining valves must be used.	2750 tons or less: None. Over 2750 tons: One retaining valve must be used for each 55 tons in excess of 2750 tons, but not less than 15 retaining valves must be used.

(b) Eastward between Encina and Oxman:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
2000 tons or less: None. Over 2000 tons and not exceeding 2250 tons averaging not to exceed 60 tons per operative brake: None. Over 2000 tons and not exceeding 2250 tons averaging more than 60 tons per operative brake, also over 2250 tons: One retaining valve must be used for each 60 tons in excess of 2000 or 2250 tons as the case may be, but not less than 15 retaining valves must be used.	3000 tons or less: None. Over 3000 tons and not exceeding 3375 tons averaging not to exceed 60 tons per operative brake: None. Over 3000 tons and not exceeding 3375 tons averaging more than 60 tons per operative brake, also over 3375 tons: One retaining valve must be used for each 60 tons in excess of 3000 or 3375 tons as the case may be, but not less than 15 retaining valves must be used.	4000 tons or less: None. Over 4000 tons and not exceeding 4500 tons averaging not to exceed 60 tons per operative brake: None. Over 4000 tons and not exceeding 4500 tons averaging more than 60 tons per operative brake, also over 4500 tons: One retaining valve must be used for each 60 tons in excess of 4000 or 4500 tons as the case may be, but not less than 15 retaining valves must be used.

Continued on opposite side.

1042 (V). Continued.

(c) Westward between Telocaset and Union Junction:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
3000 tons or less: None. Over 3000 tons: One retaining valve must be used for each 60 tons in excess of 3000 tons, but not less than 15 retaining valves must be used.	4500 tons or less: None. Over 4500 tons: One retaining valve must be used for each 60 tons in excess of 4500 tons, but not less than 15 retaining valves must be used.	6000 tons or less: None. Over 6000 tons: One retaining valve must be used for each 60 tons in excess of 6000 tons, but not less than 15 retaining valves must be used.

(d) If due to any condition engineer or conductor considers a particular train cannot be safely handled beyond Huron or Oxman as prescribed in Paragraphs (a) and (b) of this rule without use of retaining valves, trains must be stopped and remain standing ten minutes at Huron or Oxman to cool wheels and inspect train.

(e) When dynamic brake is in use, fireman must make frequent inspections to determine if dynamic brake is properly operating on each power unit and report results of each inspection to the engineer.

EXCEPTION: On diesel road-switch or switch locomotives in road service, inspections will not be made while unit in motion.

(f) If dynamic brake is inoperative on any power unit of locomotive, dynamic brake must not be used and retaining valves must be used as prescribed by Special Instruction 1042 (U).

(g) When use of retaining valves is required, these valves must be used consecutively from head end of train.

(h) Additional retaining valves must be used in accordance with provisions of Air Brake Rule 1042 (B) when in the judgment of the engineer or conductor use thereof is necessary.

(i) When retaining valves are in use, speed of 20 MPH must not be exceeded.

(j) Trainmen must patrol tops of trains when retaining valves are in use.

(k) Conductor must advise engineer number of cars, total tonnage, average tons per operative brake, and location of loads and empties in train.

1046 (R). Freight trains handled with diesel locomotives with dynamic brake not in operation must stop and remain standing ten minutes to allow wheels to cool and inspect train at the following points when retaining valves are required to be used beyond these points:

Oxman ---Eastward;
M.P. 279 ---Eastward;
Meacham---Westward;
Huron ---Westward.

When eastward freight trains stop at Motanic and remain standing ten minutes stop need not be made at M.P. 279 to cool wheels and inspect train.

Eastward freight and mixed trains must stop at Blue Mountain and remain standing ten minutes to allow wheels to cool and inspect train.

1047 (R). Westward freight and mixed trains must stop and trainmen must inspect and adjust piston travel at Barnett, Grass Valley, Thornberry and Midras.

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives 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.

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	FIRST SUBDIVISION										JOSEPH BRANCH					
		Huntington to Durkee	Durkee to Encina	Encina to North Powder	North Powder to Tellesport	Tellesport to La Grande	La Grande to Union Jct.	Union Jct. to Tellesport	Tellesport to Baker	Baker to Encina	Encina to Huntington	Joseph to Roundwa	Roundwa to Elgin	Elgin to La Grande	La Grande to Lostine	Lostine to Enterprise	Enterprise to Joseph
EMD—GP7	100 to 129	1780	840	3440	1710	3610	5970	1180	2480	1230	Car limit	3500	2000	3500	2200	1750	1300
EMD—GP9	130 to 244	1760	530	3390	1760	3550	6900	1220	2450	1220	Car limit	3500	1900	3500	2100	1700	1250
EMD	1000 to 1095	1100	560	3000	1250	3000	5000	890	2250	890	Car limit	3500	2300	3500	2300	1750	1300
ALCO	1100 to 1153	1610	675	3500	1600	3560	5500	1050	3500	1050	Car limit	3700	2500	3750	2500	1800	1550
ALCO	1180 to 1189	1610	750	3110	1610	3270	6350	1100	2250	1110	Car limit						
BALDWIN	1200 to 1210	1610	675	3500	1600	3500	5500	1050	3500	1050	Car limit	3500	2500	3750	2500	1800	1550
BALDWIN	1250	1610	750	3110	1610	3270	6470	1110	2260	1110	Car limit						
BALDWIN	1260 to 1265	2320	1090	4470	2320	4700	9280	1600	3230	1600	Car limit						
FM	1300 to 1304	1100	560	3000	1100	3000	5000	890	3000	890	Car limit	3500	1850	4000	2500	1850	1550
FM	1325 to 1329	1720	810	3330	1720	3490	6820	1190	2400	1190	Car limit						
FM	1340 to 1342	1970	930	3790	1970	3970	7760	1360	2740	1360	Car limit						
FM	1360 to 1370	1700	800	3270	1700	3430	6620	1180	2370	1180	Car limit	4000	1800	2500	2500	1850	1050
EMD—F7	1400 to 1496	1780	840	3440	1710	3610	5970	1180	2480	1230	Car limit						
EMD—F3	1500 to 1563	1850	870	3570	1770	3740	6450	1220	2570	1280	Car limit	4000	2650	4000	2650	2200	1650
EMD	1800 to 1824	1300	590	3250	1300	3250	6000	960	3250	960	Car limit	3500	2500	3700	2500	1950	1500
EMD—C&C	1870 to 1877	3050	1420	5930	2810	6540	10730	1920	4270	2100	Car limit						

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	SECOND SUBDIVISION						PILOT ROCK BRANCH		THIRD SUBDIVISION					UMATILLA BRANCH		HEPPNER BRANCH		
		La Grande to Hinkle	Hinkle to Kambath	Kambath to Hinkle	Hinkle to Duncan	Duncan to Kambath	Kambath to La Grande	Pilot Rock to Kitch	Kitch to Pilot Rock	Hinkle to Munley	Munley to The Dalles	The Dalles to Stewart	Stewart to Meser	Meser to Hinkle	Irrigon to Hinkle	Hinkle to Irrigon	Heppner to Heppner Jct.	Heppner Jct. to Ione	Ione to Heppner
EMD—GP7	100 to 129	1810	800	3610	1640	890	Car limit			3860	4320	3610	4550	2600					
EMD—GP9	130 to 244	1790	830	3550	1620	920	Car limit			4000	4500	3740	5260	2670			3000	2350	1610
EMD	1000 to 1095	1100	560	3000	1100	560	Car limit	3500	1015	2000	3000	2200	3300	1900	1800	3000	3000	1550	1015
ALCO	1100 to 1153	1600	675	3500	1600	675	Car limit	3500	1015	3300	3600	3000	4500	2250	1800	3000	3000	1550	1015
ALCO	1180 to 1189	1640	750	3270	1480	830	Car limit	3500	1100	3500	3910	3270	4840	2450	2200	3750	3000	2350	1610
BALDWIN	1200 to 1210	1600	675	3500	1600	675	Car limit	3700	1200	3300	3600	3000	4500	2250	1500	3000	3000	1015	1015
BALDWIN	1250	1640	740	3270	1450	830	Car limit			3530	3950	3300	4920	2470					
BALDWIN	1260 to 1265	2360	1090	4700	2130	1200	Car limit			5030	5620	4700	6930	3520					
FM	1300 to 1304	1100	560	3000	1100	560	Car limit	3500	1610	2000	3000	2200	3300	1900	1800	3000	3000	1600	1100
FM	1325 to 1329	1750	810	3490	1580	890	Car limit			3740	4150	3490	5190	2620					
FM	1340 to 1342	2000	930	3970	1810	1030	Car limit			4250	4750	3970	5900	2980					
FM	1360 to 1370	1730	800	3430	1570	890	Car limit			3670	4100	3430	5070	2580					
EMD—F7	1400 to 1496	1810	800	3610	1640	890	Car limit			3860	4320	3610	4550	2600	1700	3300	3000	2250	1250
EMD—F3	1500 to 1563	1880	830	3740	1700	920	Car limit	3500	1610	4000	4500	3740	5260	2690	1900	3750	3000	2350	1610
EMD	1800 to 1824	1300	590	3250	1300	590	Car limit	3500	1610	2200	3200	2400	3500	2100	2000	3200	3200	1750	1015
EMD—C&C	1870 to 1877	3110	1290	6540	2800	1430	Car limit			6660	7450	6540	8150	4290					

Rating shown is for single unit. If more than one unit, rating of combined units will govern.

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives 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.

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	THIRD SUBDIVISION																		
		CONDON BRANCH									GRASS VALLEY BRANCH									
		Condon to Clon	Clon to Mikkab	Mikkab to Sulphur	Sulphur to Arlington	Arlington to Hook Creek	Hook Creek to Barnett	Barnett to Mikkab	Mikkab to Greenwoodlyn	Greenwoodlyn to Condon	Biggs to Thornberry	Thornberry to Klondike	Klondike to Hay Canyon	Hay Canyon to Marc	Marc to Grass Valley	Grass Valley to Kent	Kent to Breake	Breake to Hay Canyon	Hay Canyon to Sandon	Sandon to Biggs
EMD—GP9	130 to 244	3500	850	1750	3500	850	600	850	600	1200	525	875	1400	850	900	1400	1200	3000	1000	3000
EMD	1000 to 1095	3000	600	1500	3000	600	450	600	450	1100	325	450	1100	425	650	800	850	3000	650	3000
ALCO	1100 to 1153										325	450	1100	425	650	800	850	3000	650	3000
ALCO	1180 to 1195	3000	875	2350	3000	800	650	800	650	1500	525	875	1400	850	900	1400	1200	3000	1000	3000
BALDWIN	1200 to 1210										325	450	1100	425	650	800	850	3000	650	3000
FM	1300 to 1304										325	450	1100	425	650	800	850	3000	650	3000
EMD	1400 to 1496	3500	715	2385	3500	885	700	785	710	1550	475	800	1000	750	775	1200	1100	3500	850	3000
EMD	1500 to 1563	3500	875	2385	3500	935	785	935	785	3500	525	875	1400	850	900	1400	1200	3000	1000	3000
EMD	1800 to 1824	3200	700	1700	3200	650	500	650	500	1200	375	500	1200	500	700	1000	1050	3200	750	3200

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	THIRD SUBDIVISION						FIFTH SUBDIVISION								
		BEND BRANCH						GRAYS HARBOR BRANCH				TONO BRANCH		OLYMPIA BRANCH		
		O. T. Jct. to North Jct.	North Jct. to South Jct.	South Jct. to Madras	Madras to Bend	Bend to O. T. Jct.		Hortman to Cosmopolis	Cosmopolis to Centralia	Centralia to Cosmopolis	Cosmopolis to Hortman	Centralia to Tono	Tono to Centralia	Olympia to East Olympia	East Olympia to Olympia	
EMD—GP9	130 to 244	2350	2600	1250	2350	3000	EMD—GP9	130 to 244	1700	4500	5000	2150	3000	3500	1800	3500
EMD	1000 to 1095	1500	1700	950	1400	1700	EMD	1000 to 1095	1200	3200	3800	1500	2500	3500	1400	3500
ALCO	1100 to 1153	1500	1700	950	1400	1700	ALCO	1100 to 1153	1700	4500	5000	2150	3000	3500	1800	3500
ALCO	1180 to 1195	2000	2350	1200	2000	2350	BALDWIN	1200 to 1210	1700	4500	5000	2150	3000	3500	1800	3500
BALDWIN	1200 to 1210	1500	1700	950	1400	1700	FM	1300 to 1304	1425	4000	4400	1900	2750	3500	1650	3500
FM	1300 to 1304	1500	1700	950	1400	1700	EMD—F7	1400 to 1496	1650	4200	5000	2100	3000	3500	1750	3500
EMD	1400 to 1496	1900	2100	1100	1900	2250	EMD—F3	1500 to 1563	1700	4500	5000	2150	3000	3500	1800	3500
EMD	1500 to 1563	2000	2350	1200	2000	2350	EMD	1800 to 1824	1400	3400	4000	1700	2700		1500	2700
EMD	1800 to 1824	1650	1850	1050	1550	1850										

Rating shown is for single unit. If more than one unit, rating of combined units will govern.

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives 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.

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	FOURTH SUBDIVISION						FIFTH SUBDIVISION										
		The Dalles to Dodson	Deason to Albina via Kenman	Troutdale to Portland via Graham	Portland to Troutdale via Graham	Albina to Hood River via Kenman	Hood River to The Dalles	Albina to Vader	Vader to Nipavine	Nipavine to Argo	Argo to Centralia	Centralia to Nipavine	Nipavine to Albina					
EMD—GP7	100 to 129	3090	4550	3140	1730	4150	3930	4320	1990	4320	4000	1560	5240					
EMD—GP9	130 to 244	3500	5260	3200	1900	4300	4000	6000	2200	4500	4750	1900	6000					
EMD	1000 to 1095	3000	4000	3000	1250	3000	3000	3500	1800	3500	3500	1650	3500					
ALCO	1100 to 1153	2700	4400	3500	1350	3500	3500	4400	2250	4400	4400	2150	4400					
ALCO	1180 to 1189	2800	4840	2840	1570	3760	3560	3910	1800	3910	3620	1410	5500					
BALDWIN	1200 to 1210	2700	4700	2700	1500	3500	3500	4400	2250	4400	4400	2150	4400					
BALDWIN	1250	2820	4920	2870	1570	3800	3600	3950	1800	3950	3660	1410	5590					
BALDWIN	1260 to 1265	4030	6980	4090	2260	5410	5120	5620	2590	5620	5210	2030	7940					
FM	1300 to 1304	3000	4000	3000	1250	3000	3000	4200	2100	4250	4200	2000	4250					
FM	1325 to 1329	2990	5190	3040	1680	4020	3800	4180	1920	4180	3870	1510	5900					
FM	1340 to 1342	3410	5900	3460	1920	4580	4330	4750	2190	4750	4410	1730	6710					
FM	1360 to 1370	2950	5070	2990	1660	3940	3740	4100	1900	4100	3800	1490	5740					
EMD—F7	1400 to 1496	3090	4550	3140	1730	4150	3930	4320	1990	4320	4000	1560	5240					
EMD—F3	1500 to 1563	3500	5260	3200	1900	4300	4000	4500	2100	4500	4400	1800	5500					
EMD	1800 to 1824	3200	4300	3200	1350	3200	3200	3700	1900	3700	3700	1750	3700					
EMD—C&C	1870 to 1877	5330	8180	5410	2970	7170	6780	7450	3410	7450	6910	2670	9290					
		SIXTH SUBDIVISION											SPOKANE-TEKOA BRANCH					
		Spokane to Geib	Geib to Page	Page to Hummerist	Hummerist to Wallula	Wallula to Juniper	Juniper to Hinkle	Hinkle to Wallula	Wallula to Hummerist	Hummerist to Ayer	Ayer to Geib	Geib to Spokane	Spokane to Chuster	Chuster to Fairfield	Fairfield to Jatah	Jatah to Tekoa	Tekoa to Freeman	Freeman to Spokane
EMD—GP7	100 to 129	2300	5970	3670	5970	4320	2300	4780	3090	4320	2300	Car limit	1750	1130	1650	2200	1435	4000
EMD—GP9	130 to 244	2670	6900	4250	6900	4250	2670	4700	3050	4250	2670	Car limit	1720	1100	1600	2100	1400	4000
EMD	1000 to 1095	1900	3500	3200	3500	3300	1600	2900	1900	3500	1900	Car limit	1175	750	1042	2000	964	3500
ALCO	1100 to 1153	2550	5600	3750	5600	3750	1900	4000	2700	4600	2730	Car limit	1875	1220	1750	2350	1565	4000
ALCO	1180 to 1189	2450	6350	3910	6350	3910	2450	4330	2800	3910	2450	Car limit	1875	1220	1750	2350	1565	4000
BALDWIN	1200 to 1210	2550	5600	3750	5600	3750	1900	4000	2600	3950	2470	Car limit	1875	1220	1750	2350	1565	4000
BALDWIN	1250	2470	6470	3950	6470	3950	2470	4390	2820	3950	2470	Car limit						
BALDWIN	1260 to 1265	3520	9280	5620	9280	5620	3520	6230	4030	5620	3520	Car limit						
FM	1300 to 1304	1900	3500	3200	3500	3300	1600	2900	1900	3500	1900	Car limit	1175	750	1050	2000	950	3500
FM	1325 to 1329	2620	6820	4180	6820	4180	2620	4630	2990	4180	2620	Car limit	1750	1190	1580	2250	1390	4000
FM	1340 to 1342	2980	7760	4750	7760	4750	2980	5270	3410	4750	2980	Car limit	2000	1360	1810	2550	1560	4000
FM	1360 to 1370	2580	6620	4100	6620	4100	2580	4530	2950	4100	2580	Car limit	1700	1180	1570	2170	1350	4000
EMD—F7	1400 to 1496	2300	5970	3670	5970	4320	2300	4780	3090	4320	2300	Car limit	1750	1130	1650	2200	1435	4000
EMD—F3	1500 to 1563	2470	6450	3950	6450	4400	2470	4960	3200	4470	2470	Car limit	1875	1220	1750	2350	1565	4000
EMD	1800 to 1824	2150	3700	3400	3700	3500	1700	3100	2200	3700	2100	Car limit	1275	825	1140	2150	1050	3700
EMD—C&C	1870 to 1877	4120	10730	6590	10730	7450	4120	8260	5330	7450	4120	Car limit						

Rating shown is for single unit. If more than one unit, rating of combined units will govern.

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives 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.

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	SIXTH SUBDIVISION																		
		TEKOA-AYER BRANCH														PLEASANT VALLEY BRANCH				
		Tekoa to Garfield	Garfield to Colfax	Colfax to Crest	Crest to Winona	Winona to Jerita	Jerita to Ayer	Ayer to Itaparia	Itaparia to Hay	Hay to Jerita	Jerita to Winona	Winona to Muckwonago	Muckwonago to Crest	Crest to Ellerton	Ellerton to Tekoa	Settle to Willada	Willada to Winona	Winona to St. John	St. John to Oakdale	Oakdale to Salice
EMD-GP7	100 to 129	1700	4000	625	4000	1900	5000	4000	1400	1000	1850	1750	1350	2300	1450	1780	3500	1575	1400	2350
EMD-GP9	130 to 244	1700	4000	600	4000	1900	5000	4000	1350	1000	1800	1750	1350	2300	1400	1750	3500	1550	1400	2350
EMD	1000 to 1095	1200	3500	400	3500	1500	4000	3200	1150	700	1500	1400	1000	2000	1150	1400	3000	1150	950	1900
ALCO	1100 to 1153	1600	3500	675	3500	1850	5000	3500	1450	1050	1900	1800	1400	2350	1500	1850	3500	1575	1400	2350
BALDWIN	1200 to 1210	1600	3500	675	3500	1850	5000	3500	1450	1050	1900	1800	1400	2350	1500	1850	3500	1575	1400	2350
FM	1300 to 1304	1450	3500	525	3500	1700	5000	3500	1300	900	1750	1650	1250	2250	1350	1600	3000	1410	1130	2200
FM	1325 to 1329	1700	4000	750	4000	1900	5000	4000	1350	1000	1950	1850	1350	2300	1400	1700	3000	1550	1400	2350
FM	1340 to 1342	1900	4000	850	4000	2100	5000	4000	1450	1200	2100	2000	1450	2600	1600	1900	3500	1750	1600	2500
FM	1360 to 1370	1700	4000	750	4000	1900	5000	4000	1350	1000	1950	1850	1350	2300	1400	1700	3000	1550	1400	2350
EMD-F7	1400 to 1496	1700	4000	750	4000	1900	5000	4000	1350	1000	1950	1850	1350	2300	1400	1750	3250	1650	1500	2500
EMD-F8	1500 to 1563	1600	3500	675	3500	1850	5000	3500	1450	1050	1900	1800	1400	2350	1500	1850	3500	1575	1400	2350
EMD	1800 to 1824	1300	3700	450	3700	1650	5000	3400	1250	750	1650	1550	1100	2200	1250	1550	3200	1250	1025	2100

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	SIXTH SUBDIVISION												
		WALLACE BRANCH										CONNELL BRANCH		
		Tekoa to Watt	Watt to Anaville	Anaville to Kellogg	Kellogg to Wallace	Wallace to Gem	Gem to Burke	Burke to Wallace	Wallace to Chatelet	Chatelet to Watt	Watt to Tekoa	Los Crosses to Hooper Jet.	Hooper Jet. to Connell	Connell to Los Crosses
EMD-GP7	100 to 129	1700	2250	1900	1900	500	450	900	3000	800	3500	3700	1200	1300
EMD-GP9	130 to 244	1700	2250	1850	1850	475	425	870	3000	790	3500	3700	1200	1300
EMD	1000 to 1095	800	1700	1200	1200	275	225	750	2500	550	2500	3500	1100	1200
ALCO	1100 to 1153	1100	2250	1750	1500	450	400	750	3000	825	3500	3500	1500	1500
BALDWIN	1200 to 1210	1100	2250	1750	1500	450	400	750	3000	825	3500	3500	1500	1500
FM	1300 to 1304	1000	2000	1500	1400	375	350	750	2500	775	2500	3500	1350	1400
FM	1325 to 1329	1700	2200	1850	1850	475	425	870	3000	790	3500	3500	1200	1300
FM	1340 to 1342	1900	2500	2100	2100	525	475	950	3000	900	3500	3700	1350	1400
FM	1360 to 1370	1700	2200	1850	1850	475	425	800	3000	870	3500	3500	1200	1300
EMD-F7	1400 to 1496	1780	2500	2100	2100	500	450	900	3000	800	3500	3500	1200	1300
EMD-F8	1500 to 1563	1800	2500	2200	2200	500	450	900	3000	800	3500	3500	1200	1300
EMD	1800 to 1824	850	1850	1300	1300	300	275	750	2700	600	2750	3700	1200	1300

Rating shown is for single unit. If more than one unit, rating of combined units will govern.

RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS

Total weight of train exclusive of locomotive, which the different classes of locomotives 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.

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	SIXTH SUBDIVISION									
		DAYTON BRANCH				POMEROY BRANCH				MOSCOW BRANCH	
		Holles to Dayton	Dayton to Turner	Turner to Dayton	Dayton to Holles	Tucannon to Pomerooy	Pomerooy to Tucannon	Relief to Starbuck	Starbuck to Relief	Callax to Moscow	Moscow to Callax
EMD—GP7	100 to 129	1600	800	1500	2000	1500	2500	1000	400		
EMD—GP9	130 to 244	1650	850	1550	2100	1550	2550	1100	400		
EMD	1000 to 1095	1600	875	875	3000	1200	3500	3500	300	1200	3500
ALCO	1100 to 1153	1600	875	875	3000	1500	3500	3500	625	1700	3500
ALCO	1180 to 1189	1675	1150	1150	3000	1500	3500	3500	675	1750	3500
BALDWIN	1200 to 1210	1600	875	875	3000	1500	3500	3500	625	1700	3500
FM	1300 to 1304	1600	875	875	3000	1350	3500	3500	490	1700	3500
FM	1325 to 1329	2000	1150	1150	3350	1400	3500	3500	600	2200	3500
FM	1340 to 1342	2200	1350	1350	3500	1600	3500	3500	750	2400	3500
FM	1360 to 1370	2000	1150	1150	3350	1400	3500	3500	600	2200	3500
EMD—F7	1400 to 1496	1675	1000	1000	3000	1400	3500	3500	600	2400	3500
EMD—F3	1500 to 1563	1750	1150	1150	3000	1500	3500	3500	625	1700	3500
EMD	1800 to 1824	1750	950	950	3200	1300	3700	3700	350	1300	3700

TYPE OF LOCOMOTIVE	NUMBERS (Inclusive)	YAKIMA BRANCH					WALLULA BRANCH		PENDLETON BRANCH						
		Wallula to Villard	Villard to Richland Jct.	Richland Jct. to Yakima	Yakima to Richland Jct.	Richland Jct. to Wallula	Wallula to Walla Walla	Walla Walla to Wallula	Pendleton to Weston	Weston to Walla Walla	Walla Walla to Bolles	Bolles to Alto	Alto to Milton	Milton to Weston	Weston to Pendleton
EMD—GP7	100 to 129	4000	3000	3500	3500	4000	1700	3700	1500	1350	1200	950	1500	750	3700
EMD—GP9	130 to 244	4000	3000	3500	3500	4000	1700	3700	1500	1350	1200	950	1500	750	3500
EMD	1000 to 1095	3000	1700	3300	3300	3300	1450	3500	1400	1150	1050	750	1400	775	3500
ALCO	1100 to 1153	4000	3000	3500	3500	4000	1450	3500	1750	1600	1400	1000	1700	925	3500
ALCO	1180 to 1189	4000	2900	3500	3500	4000	1600	4000	1750	1600	1400	1000	1700	925	3500
BALDWIN	1200 to 1210	4000	3000	3500	3500	4000	1450	3500	1750	1600	1400	1000	1700	925	3500
FM	1300 to 1304	3500	2400	3000	3000	3500	1450	3500	1600	1425	1250	975	1550	800	3500
FM	1325 to 1329	4000	3000	3500	3500	4000	1400	3700	1700	1550	1350	950	1650	875	3500
FM	1340 to 1342	4200	3200	3700	3700	4200	1400	3700	1900	1750	1550	1150	1850	1000	3500
FM	1360 to 1370	4000	3000	3500	3500	4000	1600	4000	1700	1550	1350	950	1650	875	3500
EMD—F7	1400 to 1496	4000	3000	3500	3500	4000	1450	3750	1800	1650	1450	1050	1750	975	3500
EMD—F3	1500 to 1563	4000	3000	3500	3500	4000	1600	4000	1750	1600	1400	1000	1700	925	3500
EMD	1800 to 1824	3200	1850	3200	3200	3200	1550	3750	1400	1250	1125	800	1350	850	3750

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