NORTHERN PACIFIC RAILWAY COMPANY

Rocky Mountain Division

Special Instructions No. 12

In Effect at 12:01 A. M.
Mountain Standard Time.

Sunday, April 1, 1956

These Instructions constitute a part of the Time Table currently in effect.

Employes whose duties are in any way affected by the Time Table must have a copy of The Current Special Instructions and Current Time Table with them on duty.

N. M. LORENTZSEN,
Superintendent.

F. L. STEINBRIGHT,
General Manager

E. S. ULYATT,
General Superintendent of Transportation.

ALL SUBDIVISIONS.

1. **Speed Restrictions—**

	Maximum Speeds Permitted
Passenger trains	75 MPH.
603 "B" & "BB" manifest freight trains	55 MPH.
Other freight and mixed trains	50 MPH.
Except DF trains handling Rosebud coal or logs	35 MPH.

The above speeds are subject to the restrictions of maximum speeds in miles per hour as shown by zones under each subdivision.

The allowable speed of Diesel Engines running light in Pusher and helper districts is that speed permitted passenger trains but not in excess of 65 MPH.

Where automatic block and interlocking rules and signal indications require movement at restricted speed, such movement must be made prepared to stop short of train, obstruction or switch not properly lined and be on lookout for broken rail or anything that may require the speed of a train to be reduced but a speed of 15 MPH must not be exceeded.

The definition of restricted speed as designated on Page 8 of the 1945 edition of the Consolidated Code of Operating Rules will continue to apply except where automatic block and interlocking rules and signals govern as specified above.

Reduce speed limits, within the zones listed, are designated by Advance-warning signs (diagonally upwards), Reduce speed signs (square with clipped corners) and Resume speed signs (vertical).

The Advance-warning signs are, except as otherwise specified, located approximately 3000 feet in advance of the Reduce speed signs, and the numerals on both signs indicate in miles per hour the maximum speed permitted from the Reduce speed sign to another Reduce speed limit, or to a sign indicating a higher speed, or to a Resume speed sign.

If speeds authorized by zones or by Reduce speed signs, are greater than that prescribed below for certain trains or engines such trains or engines must not exceed the prescribed speeds.

Locations where reduced speeds are required but not indicated by signs, are listed under the zones of maximum speeds permitted for each subdivision.

All trains and engines, except as otherwise specified:

Through crossovers, turnouts and gantlets, except where fixed signals provide otherwise	15 MPH.
Handling steam wrecking cranes, pile drivers, locomotive cranes and similar equipment	30 MPH.
Handling 4-wheel scale test cars and scale test car 254 — Main Line	35 MPH.
Handling 4-wheel scale test cars and scale test car 254 — Branch Lines	25 MPH.
Handling 78000 and 79000 series ore cars under load	40 MPH.
Picking up train orders from operators	30 MPH.

Engines— Classes—	Handling trains	Running light
A and Q (except on passenger trains where higher speed is authorized)	60 MPH.	60 MPH.
Z-6, Z-7 and Z-8	60 MPH.	50 MPH.
Z-5, Y and Y-1	40 MPH.	35 MPH.
S-4, T, T-1, W to W-5 inc. and Y-2	50 MPH.	45 MPH.
Steam switch engines, without engine trucks, under all conditions	15 MPH.	15 MPH.
All other steam engines, backing up (This restriction does not apply when engines are used as helpers not on head end of train.)	30 MPH.	30 MPH.
Diesel-electric engines—		
98	35 MPH.	35 MPH.
400 series, 525 and 600 series	45 MPH.	45 MPH.
5400 series	55 MPH.	55 MPH.
100 series, 700 series and 800 series	60 MPH.	60 MPH.
200 series, 500, 501, 552-569 incl., 6000 series and 7000 series except 244 and 245	65 MPH.	65 MPH.
550, 551, 6500 series, 6600 series, 6700 series, 244 and 245	75 MPH.	65 MPH.

Diesel-electric and gas-electric cars, in service or being towed—

Car B-13	55 MPH.
Cars B-6, B-11 and B-15 to B-26 incl.	65 MPH.

Coming from shops, under steam, to prevent running hot:

All A and Q and classes Z-6, Z-7 and Z-8	50 MPH.
S-4, T, T-1, W to W-5 inc., Y-2, Z-5	35 MPH.
Y and Y-1	30 MPH.

Main Line—With main and side rods removed:

All A and Q and classes Z-6, Z-7 and Z-8	30 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-2 inc.	25 MPH.

With main rods removed and side rods in place:

All A and Q and classes Z-6, Z-7 and Z-8	35 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-2 inc.	30 MPH.

Branch Lines—With either or both main and side rods removed:

All A and Q classes	25 MPH.
All other classes	20 MPH.

On bridges—With either or both main and side rods removed:

Steam switch engines, without engine trucks	15 MPH.
Other engines	20 MPH.

In the event the above speeds are in excess of 50% of the permissible speed for operating the engine in working order over any bridge carrying speed restrictions, speed on such bridges shall be 50% of the permissible speed for engine in working order.

Locomotives with front of trailer trucks removed, or with one pair of drivers jacked up or removed, require severe restrictions and, in general, the speed over bridges normally unrestricted should not exceed five (5) MPH. Such locomotives should not be moved over bridges carrying restrictions against the class of power involved without approval of Superintendent.

Dead steam engines going to shops or being transferred from one district to another with all rods up or in place, the piston rod parted from the crosshead and removed and the valve motion disconnected and blocked, may be moved in trains at not to exceed the permissible speed of freight trains operating in the territory over which the engines are to be moved, or the operating speed restriction for track or bridges for that class of engine, whichever is the lower.

Engines handled in this manner when coming from shops must not exceed the operating speeds specified for engines coming from shops under steam.

Diesel-electric engines may be handled dead in trains at not to exceed the authorized operating speed specified for such engines.

Bridge or other restrictions must be observed for these engines the same as when in operating condition.

2. Single and Double Headers; operation—track and bridges—general.

Where there are no governing restrictions specified for doubleheaders in the special instructions for each subdivision, they will be governed by the most restrictive instructions applicable to a single engine when of the same class and to the heavier engine when of different classes.

Where doubleheader restrictions are specified, doubleheaders of different classes of engines will be governed by the restrictions applicable to doubleheaders of the heavier class.

When necessary to doublehead a diesel-electric engine with a steam engine, except in case of emergency, the steam engine must be placed behind the diesel engine.

When handling diesel-electric single unit road switcher or switch engines dead in freight trains, they shall be separated from the road engine and each other by at least one freight car. This does not apply to diesel-electric engines of two or more units.

Diesel locomotives—Where bridges require restrictions on the operation of diesel locomotives, such restrictions are shown. If diesels are not specifically mentioned, the bridge is good for all diesels under the same restrictions or freedom from restriction as apply to other locomotives not specifically mentioned. The expression "and heavier" used in some restrictions, does not apply to any diesel locomotives.

When two four-unit diesel locomotives are used to double head freight trains, the leading engine only will apply power to start train, or to make backup movement with cars.

To avoid possibility of fire or damage to traction motors, diesel electric engines must not be permitted to pass over or to stand on cinder pits containing live fire or hot cinders.

Under no circumstances should diesel-electric engines pass through water which is deep enough to touch the bottom of the traction motor frame. When passing through water, movement must always be at very slow speed (2 to 8 MPH).

When operating diesel-electric and gas-electric motor cars in Automatic Block Signal Territory, or on crossing protected by electric signals, engine must be moved at least one car length after making station stop where sand was used.

Where multiple-unit diesel-electric engines are used in freight service, both the fireman and the head brakeman shall not be absent at the same time from the leading cab while the train is under way on main track between stations.

When two or more diesel units are coupled in multiple unit operation, the number of the leading unit only will be displayed in accordance with the provision of Rule 24, and used in train orders as prescribed by Rule 206.

Heavy cars—Except on authority of Superintendent, cars 30 feet or less in length with total weight exceeding 210,000 pounds not permitted; cars more than 30 feet in length with total weight exceeding 400,000 pounds not permitted on First, and Fifth Subdivisions, cars more than 30 feet in length with total weight exceeding 300,000 pounds not permitted on Second, Third, Fourth and Sixth subdivisions. Cars more than 30 feet in length with total weight exceeding 210,000 pounds not permitted on other subdivisions except on authority of superintendent.

Wrecking cranes—250 tons, 45 to 48 inc. must not be coupled directly to engine or tender of engines Classes A-2 to A-5 inc. or Z-5 to Z-8 inc., but must be separated from them by at least two cars of not over 169,000 pounds total weight, for movement over bridges.

3. Use of Mars headlight on engines so equipped—

The Mars headlight can be displayed with either stationary or oscillating white light at the same time that the standard headlight is in use, but cannot be displayed with either stationary or oscillating red light when the standard headlight is in use.

The Mars white light may be used in a stationary position as a substitute headlight in case of failure of the standard headlight, but will normally be used as an oscillating light during the time full display of standard headlight is required.

The Mars oscillating red light will be used when head end protection is required, either by day or by night by engineer control, if the train becomes disabled or is stopped suddenly due to unusual occurrence with the possibility of an adjacent track being obstructed, or if it overruns the clearance point at a meeting or waiting point, or at the end of double track or at a junction, or in any other emergency situation.

The engineer of an approaching train, finding oscillating red light displayed, must stop and then be governed by conditions existing. If on an adjacent track which he finds unobstructed and safe for operation, he may proceed at restricted speed until the standing train displaying the oscillating red light has been passed.

The Mars red light shall be displayed in stationary position when a train is occupying the main track at a meeting point with an opposing train until the headlight of the opposing train has been dimmed, per Rule 17(B), after which the red headlight shall be extinguished and the standard white headlight turned on dim until opposing train is into clear on siding.

The use of the red headlight does not in any manner relieve the train or engine men of responsibility for compliance with the provisions of Rules 99 and 102.

4. Rule 6(A) is modified to include the following variations of the letter "W" which indicate:

W (full-faced type)—water facilities for both steam and diesel power

W (capital type) —water facilities for steam power only

w (small type) —water facilities for diesel power only

5. Rule 19, Figs. 2 to 9 inclusive, and Rule 19(B) are supplemented as follows:

When the rear unit of a train is equipped with built-in electric markers, or electric signal lamps, they must be lighted by day and by night to be considered as markers, and the requirement for showing green to the front or direction of movement and green to the side will not apply.

Train crews arriving at terminals must not extinguish the built-in markers, or electric signal lamps used as markers, until the train has been delivered to connecting crew or is clear of the main track and the switch is closed.

6. Rule D-97 applies on all Subdivisions.

7. Rule 200: Lights will not be displayed by night on train order signals on the 8th, 9th, 10th, 11th, 12th, 13th, 14th and 15th subdivisions. Trains will be governed by the day indication of these train order signals.

8. Rule 606: Emergency Signals are not used at interlockings or drawbridges operated by the Northern Pacific Railway.

9. Cars will not be handled behind light-weight observation cars except in emergency or when so authorized by the Superintendent. In such cases passengers shall not be permitted to pass between such cars while train is in motion due to the unprotected opening.

Gas-electric or diesel-electric motor cars, when handled dead in freight trains, must be behind caboose.

4-wheel scale test cars must be handled only in local freight trains. All scale test cars must be placed immediately ahead of caboose.

Locomotives, tenders and cars equipped with roller bearings shall not be allowed to stand alone without brakes being applied.

Roller bearing failures on cars or locomotives equipped with roller bearing boxes may be due to lack of oil or grease. If the box is not blazing, the oil plug in the cover should be removed and heavy oil added and plug replaced. Oil must never be added to a box that is blazing. Grease lubricated roller bearing boxes have grease plugs locked with a metal strap which must be cut off with chisel before plug can be removed. In case of a hot box, oil should be added and the plug replaced; train should proceed at reduced speed and care exercised until it is apparent the box is running cool.

INSTRUCTIONS FOR HANDLING PILE DRIVERS, CRANES, DERRICKS, SHOVELS OR SIMILAR EQUIPMENT OF THE SWINGING OR PIVOTING TYPE ARE AS FOLLOWS:

(a) When such equipment is moved on their own wheels they shall be prepared and carded in accordance with current A.A.R. loading rules unless some condition exists which prevents those requirements being complied with.

(b) Equipment properly prepared and carded may be moved at normal freight train speeds unless there is some condition that prevents it, and in that event the maximum permitted speed shall be noted on the waybill.

(c) Such equipment when not prepared and carded shall be handled at speeds not to exceed 30 MPH.

(d) Such equipment that is geared for self-propulsion shall have the driving gears disconnected or removed.

(e) Such equipment that is Company-owned that requires speed to be restricted shall be covered by a message to the train crew stating the maximum speed permitted.

When handling pile driver 25, it must be coupled to either the regular tender, a flat or gondola car with open end next to cab end of pile driver to provide proper clearance.

Open cars loaded with material which may shift, such as poles, pipe, timbers, etc., shall not be placed immediately next to diesel-electric engines nor to cabooses in trains.

Precautions must be taken on double track to prevent accidents from swinging doors or other loose construction attached to cars or engines.

11. Electric Switch Locks—Two types in service—to operate either type, unlock and open the door and then follow instructions (a), (b), (c), and (d), except for locks stenciled "Force Drop Lock first turn lock handle to the plate reading "MOVE LEVER HERE AND WAIT FOR UNLOCK".

(a) If indicator shows proceed or "UNLOCKED"
Turn lock handle to left until it rests on stop block.
Line switch in usual manner and movement may be made at once.

(b) If indicator shows stop or "LOCKED" and no conflicting train movement is evident:
Unlock time release box (if provided) and push the button to start time release.
After time release has completed operation, indicator will normally show proceed or "UNLOCKED".
Turn lock handle to left until it rests on stop block.
Line switch in usual manner and movement may be made at once.

(c) After final movement over switch is made:
Restore and lock switch in normal position.
Turn electric lock handle to right until it rests on stop block.
Close and lock doors of time release box (if provided) and electric lock.

(d) Exception: If electric lock is provided with emergency release located at left of indicator, wire seal must not be broken until time release (if provided) has completed operation and electric lock fails to show proceed or "UNLOCKED". After emergency release is used, a period of three minutes must elapse before switch is lined for movement. When emergency release seal is broken, train dispatcher must be notified immediately so he may call signal maintainer to reset emergency release, as signals will remain at stop until repairs are made.

12. Spring Switches—
Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows red to an approaching train or engine a trailing point movement actuating the spring switch points must not be made.

Signal operation at spring switches equipped for switch key operation—The normal indication of main track signal is Proceed. The normal indication of siding signal is Stop. To clear the siding signal when train is ready to enter main track, insert switch key in control box and turn to right. If route is clear the siding signal will immediately clear.

If siding signal does not clear by switch key operation, open release box and push the button which will put the time release mechanism into operation. After time release has operated, the siding signal will clear if there is no conflicting train movement.

The release box door must be left open until leading wheels of train on the siding have passed the siding signal, then close and lock the release box door. If the siding signal has been cleared and train on the siding is not ready to depart, if necessary to clear signals for a main track movement, open the release box door and push the button which will start the time release mechanism. After the time release mechanism has started to operate, close and lock the release box door.

When a train, light engine or any piece of equipment moves through a spring switch in such a manner as to throw the points, the conductor or a member of the crew shall observe if the signal governing movements in the opposite direction moves to the approach or the proceed position. If it remains in the stop position and there are no other train movements in evidence that would cause it to remain in that position, the dispatcher shall be notified from the nearest open telegraph office that the signal remained in the stop position and also, when practicable, the first opposing train cautioned.

13. Log Trains—Maximum permissible speeds—35 MPH. Trains handling logs on flat cars will be governed by the following instructions:

Conductors must personally know that cars are not overload or improperly loaded, and are safe to move without loss of lading giving particular attention to permitted maximum width and height of load.

Special precautions should be observed to avoid logs falling from cars when using overhead crossing, and in all cases of obstructions or impaired clearance, prompt action taken to protect trains, making an effort to clear obstruction and reporting matter promptly.

Double track:

Conductors will notify Dispatcher when logs loaded on flat cars are in their train, and secure train order that passenger trains on opposite track will be held at next station until they have arrived.

Single track:

Such trains must be standing when meeting or being passed by passenger trains unless passenger train is standing.

14. Pusher engines must not push on cabooses not equipped with steel sills.

15. Mountain Grade Operation—
At meeting points established by train orders: The train order must specify which train will take siding.

Unless otherwise directed the ascending train will take the siding.

Descending freight or mixed trains holding main track at the meeting point must not pass the upper switch of the siding until the ascending train is clear of the main track.

Descending freight and mixed trains and light engines must not exceed one mile in three minutes, except as authorized in speed restrictions on First Subdivision.

Trains handled by steam locomotives and having a consist of more than twenty passenger equipment cars having LN, UC, PC or D22 type triple valves adjusted to function as graduated release, turn up retaining valve handles on three-fourths of the cars from head end of train. When more than one-fourth of the cars are in direct release, turn up all retaining valve handles.

Trains handling express or expedited freight having a consist of cars equipped for passenger train operation, or with a small percentage of freight refrigerators intermingled, will be governed by speed specified for passenger trains descending mountain grades.

The use of retainers may be discontinued on freight trains handled by diesel locomotives when tonnage in train does not exceed that which the locomotive can handle ascending grade without helper, providing the dynamic brake is operative on all units of the locomotive.

Speed on such trains descending must be controlled to comply with speed restrictions.

Trains handled by locomotive on descending grades, having dynamic brake operative on all units and tonnage of train exceeds the tonnage rating of locomotive for ascending the grade, turn up one retaining valve handle for each fifty tons in excess of rated tonnage, starting from the head end of train.

If locomotive is to be detached, trainmen must not close the angle cock on car or locomotive until whistle signal has been given. After recoupling and opening the angle cocks, brake system must be recharged to the required pressure and upon receipt of proper signal, application and release test of brakes on rear car shall be made from the locomotive as outlined in Air Brake Rules.

If helper or pusher locomotive is attached to train ahead of road locomotive or at rear of train, an application and release test shall be made from the leading locomotive as outlined in Air Brake Rules.

When helper is cut in ahead of the rear portion of freight train, the procedure outlined in Air Brake Rules must be followed.

Maintaining Method of Braking on Descending Grades:

Trains handled by diesel-electric locomotive, having dynamic brake operating on all units, may use the maintaining method of braking if automatic brake valve has been modified for its use and enginemen have been approved for the maintaining method of braking by road foremen.

Brake valves that have been modified, will be identified by the letter "M" stenciled on the automatic brake valve pedestal. On these brake valves, so modified, the first service position of the automatic brake valve handle is the maintaining position. With the automatic brake valve applied and the brake valve handle in this position, brake pipe pressure will be automatically maintained equal to the pressure in the equalizing reservoir.

On these brake valves so modified, first service position of the brake valve is nullified for brake application. Service position must be used to make service application of the train brakes.

Trains handled by diesel-electric locomotive, modified for the maintaining method of braking and having dynamic brake in effective operation on all units; the following tonnage may be handled without the use of retaining valves on grades no exceeding 2.2% descending:

4	unit diesel-electric locomotive	5,250 tons
3	unit diesel-electric locomotive	3,900 tons
2	unit diesel-electric locomotive	2,600 tons
1	unit diesel-electric locomotive	1,300 tons

If the train tonnage exceeds the limits specified above for handling trains without retaining valves on 2.2% descending grade, use one retaining valve for each fifty tons over tonnage specified, starting from first car at head end of train.

When maintaining method of braking is used, conductor must observe caboose gauge before passing summit and note that brake pipe pressure is being maintained.

If stop is made on descending grade, sufficient time must be allowed to recharge the train brake system which shall not be less than ten minutes after brake valve handle is placed in running position.

If stop is made on descending grade and locomotive brake only is not sufficient to hold the train, hand brakes must be applied to hold the train and to allow sufficient time to fully charge the train brake system.

Retaining valves shall be used when requested by enginemen.

If dynamic brake becomes inoperative, train must be stopped and retaining valves used as outlined for handling train with locomotive having no dynamic brake.

When maintaining method of braking is used without using retaining valves, no stop will be necessary to cool wheels and inspect train.

When maintaining method of braking is used, release of the train brakes must be made in the usual manner, dynamic brake and retaining valves (where required) being used to control train speed during time brake system is being recharged.

Partial release of train brakes by moving brake valve handle from "maintaining" position to "running" position momentarily and back to "maintaining" position, must not be attempted.

Before releasing the train brakes, enginemen must know that the speed and grade are such that train may be controlled with the dynamic brake only. This to insure that sufficient time will be allowed to recharge the train brake system before another application of the train brakes will be necessary.

For special instructions applicable to any specific mountain grade, see "Mountain Grade Operation" for the Subdivision on which it is located.

16. Bulletin Stations:—
Livingston, Bozeman, Logan, Whitehall, Butte.
Helena, Garrison, Missoula, St. Regis, Wallace, Paradise.
Silver Bow—for Union Pacific trains.

17. Standard Time Clocks:—
Livingston, passenger station.
Bozeman, passenger station.
Butte, passenger station.
Whitehall, passenger station.
Helena, yard office.
Garrison, passenger station.
Missoula, passenger station and yard office.
Paradise, passenger station.
Wallace, passenger station.

18. Watch Inspectors:—

Jack Robb, Livingston.	E. W. Phillips, Wallace.
Bozeman Jewelry Co., Bozeman.	S&M Jewelers, Helena.
S. and S. Jewelry Co., Butte.	O. B. Stoverud, Missoula.

FIRST SUBDIVISION.

(Main Line)

1. Speed Restrictions—

Zone—Between	Maximum Speeds Permitted Freight	603 Manifest Trains	Passenger
Livingston and Muir			
Ascending	40	40	40
Descending	25	25	36
Ascending or Descending against the current of traffic	20	20	25
Muir and West End	30	30	30
West End and 1400 ft. west of MP 135 (3 miles west of Chestnut)			
Ascending	30	30	30
Descending	25	25	36
Light engines	20	----	----
Ascending or Descending against the current of traffic..	20	20	25
Against the current of traffic 1400 feet west of MP 135 (3 miles west of Chestnut) and Bozeman	49	49	59
Bozeman and Logan	50	55	75
except, between Bozeman and Logan, via Powers	35	35	35
Logan and MP 191 (Brewer)	50	55	60
MP 191 and Helena	50	55	65
At Belgrade Tower Interlocking, via Powers { westward	20	20	20
{ eastward	40	40	40

At Livingston, from crossover leading from eastward track to hump track and into yard ..... 8 MPH.
Steam powered trains of less than eight cars will not exceed 25 MPH—Muir to Livingston.

2. Bridge and Engine Restrictions—
Bridge 164 Gallatin River—Engines class Z-5.....20 MPH.
Steam engines classes Z-6, Z-7 and Z-8.....30 MPH.

At Livingston—No simultaneous movement of Z-5, Z-6, Z-7 or Z-8 steam engines permitted from or to No. 6 or scale track, to leads north and south of No. 6 track east of subway account short clearance.

At Bozeman—Class "W" and heavier steam engines not permitted on upper yard tracks.

Steam engines classes A-2 to A-5 and Z-5 to Z-8 inc., moving on stock track must not pass over the bridge located 3200 feet west of stock track switch.

At Townsend—Steam engines classes A-2 to A-5 and Z-5 to Z-8 inc. not permitted on spur south of eastward siding.

At East Helena, steam engines heavier than class W not permitted on McClelland Spur.

Overhead bridge at cinder track just east of American Smelting and Refining Company ore bins will not clear engines or cars of greater height than 9 feet 6 inches from top of rail.

Steam engines classes Z-5, Z-6, Z-7 and Z-8 not permitted on following tracks:

Livingston, all except through tracks in main yard or to roundhouse or wye.
Muir, team track.
Bozeman, cannery track 100 feet west of Rouse Ave. crossing to end of track.
Belgrade, track south of main track west of Broadway Street.
Manhattan, all tracks except siding and house track.
Clarkston, spur.
Lombard, spur leading off west end of siding.
Townsend, mill spur, wye and stock tracks.
Clow, spur.
Placer, spur.
Penwell, spur.
East Helena, all tracks except siding and east switching lead.
Helena, Third Subdivision instructions govern.

3. At Helena—
Eastward freight trains use lead extension when moving from yard. Crossover from main track westward to the lead at MP 237 will be used by westward freight trains entering yard. Normal position of west switch of this crossover is for movement east via lead extension.

Third Subdivision instructions govern.

4. At Logan—Operators will handle the Crossover switches east of the station for train movements, authority must be obtained from the train dispatcher before lining the crossover switches.

When trains are directed by train order to wait for or meet a train at the Low Line switch, it refers to the crossover switch just east of the station platform.

5. **Between Muir and West End—Single track**—Bozeman tunnel. Signal indication supersedes superiority of trains on single track between Muir and West End in both directions.

Before passing interlocking signals at Muir and West End at stop position governing movement to single track, Train Order authority is required to pass such signal in stop position, Rule S-33 will not apply.

Switching movements inside the Interlocking limits at Muir and West End may be made on instructions from Operator at West End, when authorized by the Train Dispatcher, in which case switches will be thrown by hand.

At Muir—Helper engines, cutting off westward trains, will not require clearance for movement Muir to Livingston moving with current of traffic if interlocking signal indicates proceed for the movement. Operator at West End must obtain authority from the train dispatcher before displaying the proceed indication for this movement.

When helper engines from eastward trains are to follow these trains Muir to Livingston, double track clearance or train order authority is required to be furnished at Bozeman or West End.

Authority must be secured from the train dispatcher before engines leave the eastward main track spur to make a reverse movement.

The operator must obtain authority from the dispatcher before lining the remote dual control switch for an eastward movement to the westward main track. Such authority will not be given by the dispatcher if there is a train on the westward track that has departed Livingston, nor will the dispatcher clear a train at Livingston until the movement is completed after having given permission for such a lineup.

6. **At Livingston**—Normal position of double track switch is for the eastward track.

7. **Dual Control and Spring Switches**—

At Helena, spring switch at east end of lead extension, equipped with facing point lock.

At Townsend, spring switch at east end of eastward siding, equipped with facing point lock and switch key signal operation.

At Lombard, spring switch at east end of siding, equipped with facing point lock and switch key signal operation.

At Bozeman, the end of double track switch and Low Line switch are dual control switches, and may be electrically operated with remote control by the operator.

At West End, dual control switch at end of double track. Normal position for Westward track.

At Muir, dual control switch at end of double track and at west end of siding, and is electrically operated with remote control by the operator at West End. Normal position for double track switch is for Eastward track.

At Livingston, Dual control switches on the main-to-main crossover located 400 feet west of MP 116 and at west end of yard lead on westward main track, electrically operated with remote control by operator.

8. **Sidings**—

At Townsend—south siding is eastward; north siding is westward.

9. **Extra Trains**—Bozeman to Logan, will run via Manhattan; Logan to Bozeman, will run via Powers, unless otherwise instructed by train order.

10. **Whistle signals** 14(t) and 14(u) will be used by trains at Bozeman and Logan on Low Line, as occasion requires.

11. **Mountain Grade Operation**—

Mountain Grade between Livingston and 1400 feet west of MP 135, three (3) miles west of Chestnut.

See all subdivisions Item 15.

Ninety pounds brake pipe pressure must be maintained on freight or mixed trains handled by steam or diesel-electric locomotives:

Eastward—West End to Livingston Yard.

Westward—Livingston to Helena and Butte.

Eastward freight or mixed trains, handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units, stop will be made at Bozeman or before leaving West End to make brake pipe test and turn up retaining valve handles on all loads and one-half the empties, alternating the empties.

Retaining valve handles will be turned down when stop is made in Livingston yard.

When stop is made at west crossover, west end of Livingston yard, retaining valve handles on rear half of train will be turned down.

Eastward freight or mixed trains, handled by diesel-electric locomotive having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.

If helper, having dynamic brake, is used on descending grade and tonnage does not exceed the specified tonnage rating of both locomotives ascending the grade, use no retaining valves when dynamic brake is operative on all units of both locomotives.

Trains not requiring the use of retaining valves, need not stop at Bozeman or West End to make brake pipe test if consist of train has not been changed or angle cock closed after leaving terminal where terminal test was made. Conductor must know that brake pipe pressure, as indicated on caboose gauge, is being maintained before passing summit.

Westward trains, handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units and when tonnage exceeds fifty-five tons per brake, retaining valves handles must be turned up on one-half of the cars beginning at head car, at Livingston or before leaving Muir and turned down at Bozeman. When tonnage is less than fifty-five tons per brake, use no retaining valves.

On westward freight or mixed trains, handled by locomotive having dynamic brake operating effectively on all units and tonnage rating of train does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.

Conductor must know that required brake pipe pressure, as indicated on caboose gauge, is being maintained before passing summit.

In the event of failure of the dynamic brake on any unit of diesel-electric locomotive or when proper control of speed cannot be maintained, engineer must take action promptly to stop the train by use of the train brakes and instruct head brakeman to notify conductor that retaining valve handles must be turned up on cars in train to the requirements specified for trains handled by locomotive having no dynamic brake. Conductor shall instruct the brakeman accordingly and notify the engineer when specified number of retaining valve handles have been turned up, train may proceed.

12. **Pusher District**—Between Livingston and Bozeman.

13. **Yard Limits**—Tracks between yard limit signs east of Muir and west of West End, operated as one yard. Westward trains will not require rear end protection between end of double track at Muir and west switch of westward siding at West End. Eastward trains will not require rear end protection between end of double track at West End and east switch of crossover at Muir.

14. **Register Stations**—

Livingston, Bozeman, Logan, Helena.

15. **Register and Clearance Exceptions**—At Bozeman and Logan, trains may register by Form 608 and check of register may be furnished by train order or by Form 602 issued by the operator when authorized by the train dispatcher.

SECOND SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted: Freight	608 Manifest Trains	Passenger
Logan and MP 16 (3 miles east of Sappington)	50	55	75
At Sappington Interlocking	45	45	55
At Whitehall, over street crossing	30	30	30
MP 16 and MP 43 (two miles east of Pipestone)	50	55	75

MP 43 and Spire Rock—			
Ascending	30	30	30
Descending	20	....	30
Spire Rock and Homestake—			
Ascending	30	30	30
Descending	20	....	25
Homestake and MP 68 (east of MU Transfer)—Ascending	30	....	30
Descending	20	20	30
MP 68 and Butte	35	35	60

At Butte—Within city limits, All trains.
On main track ..... 20 MPH.
On other tracks ..... 15 MPH.
Approach passenger station at ..... Restricted Speed.

2. **Bridge and Engine Restrictions—**
Bridge 4.1, Madison River—Steam engines classes A-2 to A-5 inc. ..... 55 MPH.
Same classes, doubleheaded ..... 50 MPH.
Bridge 51, Spire Rock Viaduct, Bridge 52, Pipestone Viaduct and Bridge 63, Highview Viaduct—
Steam engines class Z-5 ..... 10 MPH.
Steam engines classes Z-7 and Z-8 ..... 20 MPH.
Steam engines classes A-2 to A-5 inc. and Z-6 ..... 30 MPH.
At Logan, steam engines heavier than class W must not pass over coal dock hopper.
At Whitehall, steam engines heavier than class W not permitted on oil spur and steam engines must not pass over coal dock hopper.
Engines not permitted beyond four rail lengths east of frog of coal storage spur.
Between Whitehall and Butte, steam engines classes A-2 to A-5 inc. or Z-5 to Z-8 inc., must not be doubleheaded.
Steam engines classes A to A-5 inc. and Z-5 to Z-8 inc., not permitted on following tracks:
M. U. Transfer, tracks 3 and 4.
Butte, Fourth Subdivision instructions govern.

3. **At Logan**—Train order signal does not govern second subdivision trains.
Whistle signal 14(r) and 14(s) will be used by Second Subdivision trains, as occasion requires.

4. **At Whitehall—**
The west switch of the cross-over at the passenger station is the west end of the siding.

5. **Double Track**—The normal position of switches at M. U. Transfer and Butte is for westward track.

6. **Spring Switches**—M. U. Transfer, one at end of double track equipped with facing point lock, normal position for westward main track.

7. **Mountain Grade Operation**—Mountain grade between two (2) miles east of Pipestone and two (2) miles east of M. U. Transfer.
See all subdivisions Item 15.
Ninety pounds brake pipe pressure must be maintained on freight and mixed trains in both directions, between Whitehall and Butte and Whitehall to Livingston.
Eastward freight or mixed trains, requiring the use of retaining valves, will stop at Spire Rock to cool wheels and inspect train. Conductor shall observe the caboose gauge and determine that required brake pipe pressure is being maintained before passing summit of grade.
Eastward freight or mixed trains, handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units, retaining valve handles will be turned up on all cars at Butte after terminal test has been completed and turned down at Whitehall.
Eastward freight or mixed trains, handled by diesel-electric locomotive having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.
If helper is used on descending grade and tonnage does not exceed the specified tonnage rating of both locomotives ascending the grade, use no retaining valves when dynamic brake is operative on all units of both locomotives.

In the event of failure of the dynamic brake on any unit of diesel-electric locomotive or when proper control of speed cannot be maintained, engineer must take action promptly to stop train by use of the train brakes and instruct head brakeman to notify the conductor that retaining valve handles must be turned up on cars in train to the requirements specified for trains handled by locomotive having no dynamic brake. Conductor shall instruct the brakeman accordingly and notify the engineer when specified number of retaining valve handles have been turned up, after which, train may proceed.
Westward freight or mixed trains, handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units will stop at Whitehall or Homestake to make brake pipe test and turn up retaining valve handles on all cars. Retaining valve handles will be turned down on arrival at Butte.

8. **Helper District**—Between Whitehall and Butte. Arrival of helper engines at M. U. Transfer will be telephoned by engineers to operator at Butte.

9. **Yard Limits—**
Tracks between yard limit signs east of M. U. Transfer and west of Butte operated as one yard.

10. **Register Stations—**
Logan, Butte.
Whitehall for second class and inferior trains.

11. **Clearance Exception—**
At Sappington, Trains from Tenth Subdivision will not require clearance.

THIRD SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight	603 Manifest Trains	Passenger
Helena and east switch Birdseye	50	55	60
except G. N. Crossing Interlocking	50	50	50
Birdseye (east switch) and Austin			
Ascending	30	30	35
Descending	20	....	35
Austin and Blossburg			
Ascending	30	30	30
Descending	20	....	25
Blossburg and MP 51 (Garrison)	50	55	70

Steam powered trains of fewer than eight cars will not exceed 20 MPH Blossburg to Birdseye.

Both Tracks—			
MP 51 and Missoula	50	55	75
Helena and Missoula			
Against the current of traffic	49	49	59

At Missoula, within city limits,
Over public crossings ..... 30 MPH.
Elsewhere ..... 45 MPH.
Trains handling cars loaded with phosphate which have not been weighed will not exceed 30 MPH and will stop to inspect cars every 35 miles.

2. **Bridge and Engine Restrictions—**
Between Helena and Blossburg steam engines classes A-2 to A-5 inc. or Z-5 to Z-8 inc. must not be doubleheaded.
At Blossburg, steam engines classes W-3 or lighter permitted to use track from 2400 feet north of wye tail switch to Clay Pit.
At Avon, engines must not pass, and trainmen must not ride platform side of cars by ore loading platform.
At McQuarrie Gravel Pit, engines or high cars must not be moved under gravel hopper located 1400 feet from head block Hopper will not clear man on side of car.
Steam engines classes Z-5, Z-6, Z-7 and Z-8 not permitted on following tracks:

Helena, all tracks except main yard tracks and tracks to turntable, coal dock, roundhouse, wye, diesel track and machinery spur for a distance of 300 feet from clearance point.

Fort Harrison, beyond east side of highway crossing.
Birdseye, spur.
Weed, spur.
Skyline, spur.

Garrison—Boot track east of passenger station beyond 120 feet west of standpipe, material yard track and stull spur west end of yard.

Gold Creek, spur from stockyard to end of spur.
Nimrod, spur.
Bonita, spur.
Clinton, spur.

Bonner, High Line beyond first highway crossing and the two spur tracks leading west from highline.

Missoula, all tracks except main yard tracks, tracks to coal dock, turntable and wye. Diesel road engines not permitted on coach tracks 1 and 2 east of passenger station and coach Track 2, west of passenger station.

Wrecking cranes numbers 45, 46, 47 and 48 will clear bridges 37, 38, 41 and 43, between Helena and Garrison, five and one-half inches at one foot three inches above rails.

3. **At Helena**—End of double track is at spring switch west of Roberts Street crossing. Movements from eastward track to freight yard will be made through first crossover east of overhead bridge.

4. **At Garrison**—
Westward trains arriving will be governed by the indication of the interlocking signal at double track switch.

5. **Dual Control and Spring Switches and Switch Key Signal Operation**—
At Helena, spring switches without facing point locks at east end double track just west of Robert St. crossing, normal position for westward main track, and at west end yard lead connection with westward main track, normal position for yard lead.

At Garrison, one spring switch at east end of yard lead east of coal dock, normal position for eastward main track, and one at east end of crossover from eastward to westward main track, normal position for crossover; both equipped with facing point locks. One at west end of west crossover from eastward to westward main track and one at west end of westward siding, not equipped with facing point locks, normal position for westward main track.

Signal operation governing the spring switch at west end of westward siding is equipped for switch key operation.

Switch at end of double track and switch from eastward main track to Fourth Subdivision are dual control and is electrically operated with remote control by the operator.

6. **Sidings**—
At Austin, south siding is westward, north siding is eastward.
At Blossburg, south siding is eastward; north siding is westward.

7. **Rules and Instructions Governing Operation by Signal Indications (Centralized Traffic Control) Between Tobin and Garrison.**

400. The movement of trains is governed by signal indications, superseding superiority of trains and the use of train orders. Limits of Centralized Traffic Control (CTC) are identified by roadway signs indicating the beginning of and the end of CTC territory.

401. Except as specifically modified herein, the operation of trains in CTC territory will be governed by the current Operating Rules and General Instructions of the Consolidated Code and the Special Instructions.

402. Movements in CTC territory are governed by the signal indications displayed and the verbal instructions of the train dispatcher. All instructions of the train dispatcher must be repeated to insure correct understanding.

403. When a member of the crew of a train or engine standing or switching, a signal maintainer, trackman or other employe observes a white light displayed on the track side of a relay house, he should at once communicate with the train dispatcher.

404. In case of unusual delay, or if a proceed signal indication cannot be acted upon immediately, train dispatcher should be promptly notified.

405. When a train is standing at a station on the main track between Stop signals, (Rule 601A), protection as prescribed by Rule 99 is not required.

406. Work train limits will be authorized by the train dispatcher verbally instructing the conductor, the time and place the work train must clear, or the time to call the train dispatcher for further instructions.

407. When a train is to be admitted to an occupied siding such train must be stopped and the engineer notified by the train dispatcher of the situation before the Take siding signal indication is displayed. When two opposing trains are to be admitted to the same siding, both trains must be stopped and the engineers notified of the situation before the Take siding signal indication is displayed.

408. At meeting points between freight trains on mountain grade, a descending freight or mixed train with more than 80 cars or 1500 tons holding main track must not pass the upper switch of the siding until ascending train is clear of main track.

409. When whistle signal 14(k) is not answered, train displaying the green signals need not stop.

410. When a train is stopped by a Stop signal, (Rule 601A), it must stay until authorized to proceed, except in case of failure of means of communication, and be governed by the provisions of Rule 509(A). Before passing the Stop signal protecting either a facing or trailing point switch, the switch must be examined to know the points are in proper position.

Movement over a dual control switch must not be made until after the selector lever has been placed in hand position, where it must remain until the leading wheels of the engine or car have moved onto the switch points, after which, the selector lever must be returned to power position.

411. When a train is stopped by a Stop and proceed signal, it may proceed at once at restricted speed through the entire block, except when a train is proceeding under protection of a flagman from the last Stop signal, it must continue under flag protection to the next Approach or Clear signal.

412. Except in case of failure of means of communication, dual control switches must not be hand operated without authority from the train dispatcher.

When time limit has expired or work is completed, unless otherwise instructed by the train dispatcher, switch must be restored to position in which originally found, and engineer notified. Train dispatcher must be advised of the location of train or engine, position of switch and selector lever, and next movement desired. Unless authorized by the train dispatcher, when it is necessary to hand operate a dual control switch to enter or foul a main track, the switch must not be operated until three minutes after the selector lever has been placed in hand position.

413. Hand throw switches equipped with electric locks must not be operated unless authorized by the train dispatcher.

414. Trains or engines occupying the main track required to hand operate switches equipped with automatic electric locks must have the leading wheels of the car or engine standing not less than one rail length in advance of the switch points.

415. Mechanical release seal must not be broken or emergency release operated without authority of train dispatcher. If electric lock out of order and communication fails, break seal, operate levers to release. Wait three minutes before lining switch. If necessary, movement must be protected by flagman.

416. After leaving a station, if a train or engine makes a reverse movement back to that station, no forward movement may again be made from that station without authority from the train dispatcher.

417. Trains or engines delayed after passing a clear intermediate signal must approach the next signal at restricted speed and comply with the indication displayed.

418. Employes must not enter Mullan tunnel unless authorized by the train dispatcher. Before authorizing occupancy of the tunnel or closing the tunnel doors, the train dispatcher must reverse and block the tunnel lever in the control machine and specify the time limit authority. After tunnel clear or doors open, employe to whom authority was granted must promptly

advise train dispatcher who must then restore the tunnel lever in control machine to normal position.

419. Positive block must be maintained between Blossburg and Skyline, and following movements not permitted.

420. Between east switch at Blossburg and west switch at Skyline, protection as prescribed by Rule 99 is not required.

421. Eastward trains, except light engines or engines and caboose only, are not permitted to follow passenger trains from any station between Blossburg and Tobin until passenger train is clear of next station in advance.

Between Tobin and Helena.

422. At Tobin, eastward trains will be governed by signal indication. Eastward extra trains will not require train order or double track clearance authority and may, unless otherwise instructed, run ahead of superior trains to entrance of Helena yard.

423. On both main tracks the movement of trains is governed by the provisions of Operating Rules 261, 263 and 264.

424. At Helena, clearance for a westward train must be endorsed Westward Track (or Eastward Track) and the track designated must be used by the train addressed from Helena to Tobin.

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425. Sand must not be used, ash pans cleaned, water allowed to run or blowoff cocks opened over moveable parts of power operated switches or between the signals which govern movements over these switches.

426. Cars containing explosives or inflammables must not be allowed to stand over open flame switch heaters.

Hand operated switches equipped with electric switch locks:

Automatic locks—Avon, house track both switches.
Calcium spur.
Austin, eastward siding east and west switches.
Helena, westward track west crossover switch at Fairground underpass, eastward track Kessler Spur.

Dispatcher controlled locks—Blossburg, westward siding east and west switches.

8. **Mountain Grade Operation** between east switch Blossburg and Birdseye.

See all subdivisions Item 15.

On eastward freight and mixed trains, the feed valve on locomotive must be adjusted to allow the brake system to charge to ninety pounds before passing Blossburg and conductor must know by observing the caboose gauge that this rule is being complied with.

Trains requiring the use of retaining valves, will stop at Elliston to make a brake pipe test and turn up retaining valve handles.

Trains handled by locomotive, having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units, retaining valve handles will be turned up at Elliston on all loaded cars and on one-half the empties, alternating the empties.

On trains of all empty cars, retaining valve handles will be turned up on one-third of the cars, alternating, beginning with the head car.

On these trains, stop must be made at Austin to cool wheels and inspect train and at Fort Harrison to turn down retaining valve handles and inspect train.

Eastward trains, handled by diesel-electric locomotive having dynamic brake operating effectively all units and tonnage rating of train does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.

If helper, having dynamic brake, is used on descending grade and tonnage does not exceed the specified tonnage rating of both locomotives ascending the grade, use no retainers when dynamic brake is operative on all units of both locomotives.

Trains, not requiring the use of retaining valves, need not stop at Austin or Fort Harrison.

In event of failure of the dynamic brake on any unit of diesel-electric locomotive or when proper control of speed cannot be

maintained, engineer must take action promptly to stop train by use of train brakes and instruct head brakeman to notify the conductor that retaining valve handles must be turned up on cars in train to the requirements specified for trains handled by locomotive having no dynamic brake. Conductor shall instruct the brakemen accordingly and notify the engineer when specified number of retaining valve handles have been turned up, before train proceeds.

9. **Yard limits**—Tracks between yard limit signs west of Tobin and east of Helena operated as one yard.

10. **Helper District** between Helena and Blossburg.

At Helena, when two steam helper engines are used to help westward freight trains, unless otherwise instructed, place one engine twenty-three cars ahead of caboose and one engine next ahead of caboose.

When diesel-electric engines are used as helpers Helena to Blossburg, those consisting of two units or less will be placed behind caboose and those consisting of three or more units will be placed ahead of 40 per cent of train tonnage.

While handling single locomotive tonnage over the entire district and two four unit diesel locomotives are double headed. The leading locomotive only will use dynamic brakes.

At Blossburg—When two helper engines, returning to Helena, are available for movement at the same time, they should couple together, unless otherwise instructed.

11. **Register Stations**—

Helena Yard, Garrison, Missoula.

12. **Register and Clearance Exceptions**—At Garrison, trains may register by Form 608 and check of register may be furnished by Form 602 issued by the operator when authorized by the train dispatcher.

At Phosphate—Trains from Eighteenth Subdivision will not require clearance.

FOURTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted Freight	603 Manifest Trains	Passenger
Butte and Hackney	50	55	60
Hackney and Dempsey except Dempsey—Interlocking	50	55	75
Eastward	45	45	60
Westward	50	50	60
Dempsey and Garrison	50	55	65

At Butte—Within city limits, All trains.
On main track ..... 20 MPH.
On other tracks ..... 15 MPH.
Approach passenger station at ..... Restricted Speed.

2. **Bridge and Engine Restrictions**—Bridges 11.1 and 11.2 Silver Bow Creek between Silver Bow and Hackney:

Steam engines classes Z-5, Z-7 and Z-8 ..... 30 MPH.

Steam engines classes A and heavier not permitted on following tracks:

Dempsey, spur.

Steam engines classes Z-5 to Z-8 inc. and U. P. engines numbers 3500-3674 inc., not permitted on following tracks:

Butte, back tracks except tracks 1, 2, 11, 12, 13, old main and wye.

Silver Bow, back tracks except tracks 2, 3 and 4.

Deer Lodge, back tracks, except Milwaukee Transfer.

Silver Bow—Steam engines classes W-3 and heavier not permitted on track 4, Victor Chemical Works yard.

At Silver Bow—Train order signal does not govern eastward Union Pacific Trains.

3. **At Garrison**—Train order signal does not govern Fourth Subdivision trains.

When train rights permit, train No. 287 may use eastward main track from crossover east of coal dock to boot track switch.

Third Subdivision instructions govern.

4. Whistle Signal 14(r) and 14(s) will be used by Fourth Subdivision trains at Garrison, as occasion requires.

5. **Register Stations**—Butte, Garrison.
Silver Bow for UP trains.

6. **Clearance Exceptions**—
At Butte—Union Pacific trains must secure both Northern Pacific and Union Pacific clearances before leaving.

FIFTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted Freight	603 Manifest Trains	Passenger
Missoula and DeSmet both tracks	50	55	70
Against the current of traffic	49	49	59
DeSmet and Paradise	50	55	60
except, Huson—Interlocking	45	45	50

Trains handling cars loaded with Phosphate which have not been weighed will not exceed 30 MPH and will stop to inspect cars every 35 miles.
At Missoula, within city limits, over public crossings and First crossing East and West of Stock Yards.....30 MPH.
Elsewhere .....45 MPH.
At Fish Creek, on spur .....5 MPH.

2. **Bridge and Engine Restrictions**—
Bridge 168, near Rivulet, steam engines classes A-2 to A-5, inc., Z-5 to Z-8, inc.....20 MPH.
Steam engines classes A to A-5 inc. and Z-5 to Z-8 inc. not permitted on following tracks:
Grass Valley, beyond clearance points.
At Fish Creek, beyond clearance point class W-3 engines not permitted.
Westfall, spur beyond clearance points.
At Superior, steam engines heavier than class W-3 not permitted on Stock track beyond clearance point.
St. Regis, engine house and house track.
Quinns, spur beyond clearance point.
At Missoula—Third Subdivision instructions govern.

3. **Spring Switches**—
Missoula—One at west end lead to westward main track, not equipped with facing point lock, normal position for yard lead.
DeSmet—One at west end east crossover, normal position for eastward main track, and one at east end west crossover, normal position for Fifth Subdivision main track, both equipped with facing point locks.
Rivulet, east end of siding, equipped with facing point lock.
Westfall, west end of siding, equipped with facing point lock.
Spring Gulch, west end of siding, equipped with facing point lock.

4. **At Fish Creek Spur**, a three per cent descending westward grade from west switch of runaround track to end of main spur 4468 feet west of main track switch requires the following operation.
Air brakes must be charged to a maximum of 90 pounds brake pipe pressure and a brake test made in accordance with Air Brake Rule before descending or ascending this grade, retaining valves to be used descending on all loads and one half the empties, alternating the empties. When shoving cars descending a trainman must ride the leading car.
On the two spurs leading west from the main spur the grade is one percent ascending westward, and hand brakes must be set on the two east cars of any cut of cars left on these spurs.

5. **Extra Trains**—Between Missoula and Paradise will run via Fifth Subdivision unless otherwise instructed by train order.
Eastward extra trains may run ahead of delayed first class trains DeSmet to Missoula without train order authority, avoiding delay to the greatest practicable extent.

6. Whistle Signal 14(r) and 14(s) will be used by Fifth Subdivision trains at DeSmet and Paradise, as occasion requires.

7. **Register Stations**—Missoula and Paradise.

SIXTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted Freight	603 Manifest Trains	Passenger
DeSmet and one mile west	50	55	75
One mile west of DeSmet and MP 19 (east of Arlee)			
Descending	20	----	30
Ascending	30	30	30
Evaro and MP 19 (east of Arlee)			
Descending	20	20	35
Ascending	30	----	35

Steam powered trains of fewer than eight cars will not exceed
Evaro to DeSmet .....20 MPH.
Evaro to Arlee .....20 MPH.

MP 19 and MP 34 (three miles west of Ravalli)	50	55	75
MP 34 and MP 49 (2 miles east of Perma)	50	55	65
MP 49 and Paradise	50	55	75

2. **Bridge and Engine Restrictions**—
Bridge 55, Flathead River—
Steam engines classes A-2 to A-5 inclusive, W-3, W-5 and Z-6 to Z-8 inclusive .....20 MPH.
Single header, class Z-5 .....10 MPH.
Double header class Z-5 not permitted.
Trains handling wrecking cranes 45, 46, 47 and 48.... 20 MPH.
Steam engines classes A-2 to A-5 and Z-5 to Z-8 inclusive, not permitted on following tracks:
Evaro—Beyond 200 feet north of wye stem switch.
Arlee—House track and beyond 200 feet north of wye stem switch.
Ravalli—House track and stock spur.
Perma—Stock spur.

3. **At Arlee**—Normal position of switch at east end of siding is for house track.

4. **At Ravalli**—Normal position of switch at west end of siding is for house track.

5. **At Paradise**—Idaho Division Instructions govern.

6. **At DeSmet and Paradise**—Fifth Subdivision instructions govern.

7. **Extra Trains** between DeSmet and Paradise will run via Fifth Subdivision unless otherwise instructed by train order.

8. **Mountain Grade Operation** between one mile west of DeSmet and two miles east of Arlee.
See all subdivisions Item 15.
Ninety pounds brake pipe pressure must be maintained on freight and mixed trains in both directions, Evaro to one mile west of DeSmet and Evaro to Arlee.
Conductor shall observe the caboose gauge and determine that required brake pipe pressure is being maintained before passing summit of grade.
On these trains, handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units, retaining valve handles will be turned up on all cars between Evaro and MP 3, west of DeSmet, and Evaro to Arlee. Stop will be made at DeSmet and Arlee to turn down retaining valve handles.
On these freight or mixed trains, operating on descending grade east or west of Evaro, handled by diesel-electric locomotive having dynamic brake in effective operation on all units, and tonnage rating of drain does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.
If helper, having dynamic brake is used on descending grade and tonnage does not exceed the specified tonnage rating of both locomotives ascending the grade, use no retaining valves, when dynamic brake is operative on all units of both locomotives.

In the event of failure of the dynamic brake on any unit of diesel-electric locomotive or when proper control of speed can not be maintained, engineer must take action promptly to stop train by use of the train brakes and instruct head brakeman to notify the conductor that retaining valve handles must be turned up on cars in train to the requirements specified for trains handled by locomotive having no dynamic brake. Conductor shall instruct the brakeman accordingly and notify the engineer when specified number of retaining valve handles have been turned up, train may proceed.

9. **Helper District**—Between Missoula and Arlee.

10. **Register Stations**—
Paradise.

11. **Clearance Exceptions**—
At DeSmet—Trains will not require a clearance if the train order signal indicates proceed.

EIGHTH SUBDIVISION.
(PARK BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted
Livingston and Gardiner	30 MPH.
except trains handling gravel and rock and steam engines class W-3	20 MPH.
At Gardiner, on circle	10 MPH.

2. **Bridge and Engine Restrictions**—Steam engines W-3 and heavier not permitted except engines class W-3 permitted between Livingston and Merriman. W-3 engines not permitted on old quarry tracks at Merriman.

3. **At Electric**—Siding is one (1) mile west of station.

4. **Register Stations**—
Livingston, Gardiner.

NINTH SUBDIVISION.
(CAMP CREEK BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted
Manhattan and Anceney	20 MPH.

2. **Bridge and Engine Restrictions**—
Steam engines class W-3 and heavier not permitted.

3. **Manhattan Wye**—Eastward trains will obtain necessary information from dispatcher as to overdue trains before occupying First Subdivision main track.

4. **At Anceney**—Derail located on main track three hundred thirty (330) feet east of east switch. Derail to be left in derail position and east switch of industry track lined for main track when occupied by cars.

5. **Clearance Exceptions**—
At Anceney, trains will not require clearance.

TENTH SUBDIVISION.
(RED BLUFF BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted
Sappington and two miles west	25 MPH.
Between Sappington and Norris from MP 8 to MP 14, diesel engine units in excess of 248,000 lbs.	20 MPH.
Descending	15 MPH.
(Not exceeding any one mile in four (4) minutes)	
Ascending	25 MPH.
Two miles east of Harrison and Norris	25 MPH.

2. **Bridge and Engine Restrictions**—
Bridge 2—Wrecking cranes 45, 46, 47 or 48 ..... 10 MPH
Heavy Car Restrictions, Bridge 2, Antelope Creek:

Trains handling cars with total weight exceeding 169,000 pounds in groups or coupled to engine or tender ..... 10 MPH.
If such cars are separated from each other and from engine or tender with one car 40 ft. long with total weight not over 169,000 pounds speed restriction will not apply.

3. Mountain grade between two miles west of Sappington to two miles East of Harrison.
See all subdivisions Item 15.
Ninety pound brake pipe pressure must be maintained on freight and mixed trains between Harrison and Sappington, and Conductor must know by caboose gauge that this pressure is attained before making terminal test.
Trains handled by locomotive having no dynamic brake or when locomotive does not have dynamic brake in effective operation on all units, retaining valves must be used on all cars, Harrison to Sappington.
Trains handled by diesel-electric locomotive, having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the locomotive ascending the grade without helper, use no retaining valves.

4. **Clearance Exceptions**—
At Sappington—Trains will not require a clearance.

ELEVENTH SUBDIVISION.
(RUBY VALLEY BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted
Whitehall and Alder	25 MPH.
except at Interlocking, 2 miles west of Whitehall	20 MPH.

2. **Bridge and Engine Restrictions**—
Bridge 9, Jefferson River:
Steam engines heavier than class W-5 not permitted.
Engines classes W-3 & W-5 ..... 20 MPH.
Cars over 169,000 pounds and under 214,000 pounds, must be separated from each other and from engine and tender. When so separated, speed not restricted.
Trains handling cranes 45, 46, 47 and 48 ..... 15 MPH.

3. **At Whitehall**—
Second Subdivision instructions govern.

4. **At Alder**—When cars are left on stock yard track, derail on west end of house track must be set in derailing position, the west house track switch left lined for the house track, the east wye switch left lined for the wye and the stockyard switch left lined for the stockyard.

5. **Register Stations**—
Whitehall, Alder.

TWELFTH SUBDIVISION.
(PHILIPSBURG BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted
Drummond and Philipsburg	25 MPH.
except, Drummond—Interlocking	20 MPH.

2. **Bridge and Engine Restrictions**—
Steam engines classes A-4 and heavier not permitted.
Bridge 14—engines class A-2 and A-3 ..... 20 MPH.

3. **At Drummond**—Train order signal does not govern twelfth subdivision trains.

Derail Switches—
Philipsburg ..... 650 feet east of station on main track.
On Main Track—Fifty feet west of MP 1.

THIRTEENTH SUBDIVISION.

(BITTER ROOT BRANCH)

1. **Speed Restrictions—** Maximum Speeds Permitted

Zone—Between

Missoula and Kenspur ..... 35 MPH.
Kenspur and MP 54 ..... 40 MPH.
MP 54 and Darby ..... 30 MPH.
except, between Missoula and Darby, trains handling steam wrecking crane, pile driver or locomotive crane ..... 20 MPH.
Trains handling loaded 70 ton Hart cars ..... 30 MPH.
At Stevensville—Over highway crossing 1817 feet east of passenger station ..... 20 MPH.

2. **Bridge and Engine Restrictions—**

Steam engines heavier than class W-2 not permitted.

Bridges 4, 11.1, 23.2 and 51, trains handling wrecking cranes 45, 46, 47 or 48 ..... 15 MPH.

Heavy Car Restrictions—

Cars 30 ft. or longer with total weight exceeding 169,000 pounds must be separated from engine or tender with one car 40 ft. long with total weight not over 169,000 pounds.

Cars less than 30 ft. long with total weight exceeding 169,000 pounds must be separated from each other and from engine or tender with one car 40 ft. long with total weight not over 169,000 pounds.

3. **At Darby**—Normal position of west switch of siding is for siding.
Normal position of spur switch is for spur.

4. **Register Stations**—Missoula, Darby.

FOURTEENTH SUBDIVISION.

(FLATHEAD VALLEY BRANCH)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight	Passenger
Dixon and Polson	25	30

2. **Bridge and Engine Restrictions—**
Steam engines class A and heavier not permitted.

3. **Clearance Exception**—No. 848 does not require clearance at Dixon and No. 844 does not require clearance at Polson.

FIFTEENTH SUBDIVISION.

(COEUR D'ALENE BRANCH)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight	Passenger
Haugan and Saltese	20	30
Descending—		
Saltese and Sohon	20	25
Sohon and Dorsey	15	25
Dorsey and Mullan	20	25
Ascending—		
Saltese and Mullan	25	25
Mullan and Wallace	20	30
At Wallace, over public crossings	6 MPH.	

2. **Bridge and Engine Restrictions—**
Steam engines class A-1 and heavier, not permitted.
Bridge 42, just west of Dorsey ..... 10 MPH.
Do not make air brake application except in emergency while train on bridges 40.1, 40.2, 41.1 and 42, east and west of Dorsey.
Bridge 57 at Wallace—steam engines class Q-4 and heavier ..... 5 MPH.
Wrecking cranes 41, 42, 43 and 44 and pile driver 25 ..... 15 MPH.
Wrecking cranes 45, 46, 47 and 48 not permitted.

Heavy Car Restrictions—

Cars less than 30 ft. long with total weight exceeding 169,000 pounds must be separated from each other and from engine or tender and cars 30 ft. or more long with total weight exceeding 169,000 pounds must be separated from engine or tender with one car 40 ft. long total weight not over 169,000 pounds.

3. **At Lookout**—Rule 91 is modified to require trains and engines descending in same direction to keep not less than twenty (20) minutes apart.

South siding is eastward, north siding is westward.

4. **Mountain Grade Operations** between Saltese and Mullan.
See all subdivisions Item 15.

Ninety pounds brake pipe pressure must be maintained on all freight or mixed trains handled by steam or diesel-electric locomotive in either direction, between Saltese and Mullan. A brake pipe test to be made at Lookout.

Conductor must know that required brake pipe pressure, as indicated on caboose gauge, is being maintained before passing summit. Retaining valves must be used on all cars, Lookout to Saltese and Lookout to Mullan.

Safety switch at foot of four per cent grade at Sohon and Dorsey will be kept set and locked for main track, except when doubling trains to Lookout, when switches will be opened between head and rear portion of train.

Train and engine men using the Hercules high line at Wallace must leave a flagman at the foot of the grade to protect return movement. Train and engine men must at all times expect to find a flagman at this point.

Diesel engines will not exceed 8 MPH when handling Rotary Snow Plow or other snow equipment in service while descending the 4 percent grade both east and west of Lookout and this speed must be maintained by use of air brakes entirely.

5. **Helper District**—Between Saltese and Wallace.

6. **Register Stations—**
St. Regis. Haugan. Wallace. Lookout.

SIXTEENTH SUBDIVISION.

(BURKE BRANCH)

1. Between Wallace and Burke Northern Pacific Railway trains will operate over the Union Pacific Railway and be governed by Union Pacific Railway time table and rules.

2. **At Dorn**—Engines not permitted inside loading shed.

3. **Mountain Grade Operation** between Burke and Wallace.
See all subdivisions Item 15.

Ninety pounds brake pipe pressure must be maintained on all freight or mixed trains handled by steam or diesel-electric locomotives between Burke and Wallace.

A terminal test of the brakes must be made at originating terminal and if consist of train has been changed or angle cocks closed after leaving originating terminal, a brake pipe test must be made after locomotive or car is coupled to the train and angle cocks opened.

Conductor must know, by observation of the caboose gauge, that brake pipe pressure is being restored before proceeding. Retaining valves must be used on all cars, Burke to Wallace.

4. **Register Station**—Wallace.

SEVENTEENTH SUBDIVISION.

(SUNSET BRANCH)

1. **Speed Restrictions—** Maximum Speeds Permitted

Zone—Between
Wallace and Bunn—
Descending, trains will not exceed any one (1) mile in four (4) minutes, and light engines any one (1) mile in three (3) minutes.
Ascending, all trains ..... 20 MPH.

2. Trains will not require train orders or clearance, and will be governed by Rule 93.

3. **Mountain Grade Operations** between Bunn and Wallace.
See all subdivisions Item 15.
Ninety pounds brake pipe pressure must be maintained on freight or mixed trains, handled by steam or diesel-electric loco motive, between Bunn and Wallace.
A terminal test of the brakes must be made at originating terminal and if consist of train has been changed or angle cocks closed after leaving originating terminal, brake pipe test must be made after locomotive or car is coupled to the train and angle cocks opened.
Conductor must know, by observation of the caboose gauge, that brake pipe pressure is being restored before proceeding. Retaining valves must be used on all cars, Bunn to Wallace.

4. **Register Station**—Wallace.

EIGHTEENTH SUBDIVISION.

1. **Speed Restrictions:**
Phosphate to end of track ..... 25 MPH.
End of track to Phosphate ..... 20 MPH.

2. **Bridge and Engine Restrictions—**
Steam engines classes A, A-1 and heavier not permitted.

3. **Mountain Grade Operation:**
Mountain grade 2400 feet west of the junction switch to end of track.
See all subdivisions Item 15.
Ninety pound brake pipe pressure must be maintained on all trains between 2400 feet West of the Junction switch and End of track.
Retaining valve handles to be turned up to horizontal position descending.
When shoving cars on descending grade a trainman must ride the leading car and sufficient hand brakes must be set on end of cut to control slack.

4. **At Phosphate**—At loading dock close clearance exists. Trainmen must not ride side of cars by dock, nor stand between dock and moving cars.
At MP 4—At loading dock close clearance exists. Trainmen must not ride side of cars by dock, nor stand between dock and moving cars.

5. **Derail Switches:**
In Lower Phosphate Yard—20 feet east of headblock just west of Highway No. 10.
At MP 4 in Middle Yard—20 feet east of the east switch.
West Yard—The main track and two yard tracks each protected by derails just west of the west switch.

6. **Yard Limits**—At Phosphate from 1075 feet west of junction switch with Third Subdivision to 300 feet east of MP 1.

7. **Clearance Exceptions**—At Phosphate and end of track trains will not require a clearance.

MAXIMUM CLEARANCES

Table is based on open car loading equally divided on either side of center line of car.

Note—Limit of load measurements based on 52' cars with 42' truck centers. Heights and widths in table allow 6 inches clearance.

		LIMIT OF LOAD—MEASUREMENT									Governing Structure
		Height Above Top of Rail									
		1'0" Wide	2'0" Wide	3'0" Wide	4'0" Wide	5'0" Wide	6'0" Wide	7'0" Wide	7'6" Wide	8'0" Wide	Max. Height	Max. Width	
1st Subdivision.	M. L., Livingston to Helena	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	Bridge No. 113.
2nd Subdivision.	M. L., Logan to Butte	18'2"	18'1"	18'1"	18'1"	17'10"	17'8"	17'5"	17'3"	17'1"	18'2"	12'0"	Homestake Tunnel and Tunnel No. 3 at M. P. 57½
1st Subdivision.	Bozeman to Logan Low Grade Line	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'3"	20'6"	20'6"	20'6"	12'0"	
2nd Subdivision.	M. L., Helena to Garrison	19'2"	19'1"	18'11"	18'9"	18'6"	18'3"	18'0"	17'10"	17'7"	19'2"	12'0"	Iron Ridge & Mullan Tunnels
3rd Subdivision.	M. L., Garrison to Missoula	20'6"	20'6"	20'5"	20'0"	19'7"	19'2"	18'8"	18'5"	18'1"	20'6"	12'0"	Garrison and Bonita Tunnels
4th Subdivision.	M. L., Butte to Garrison	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	12'0"	B. A. & P. Overhead
5th Subdivision.	M. L., Missoula to Paradise	17'8"	17'6"	17'6"	17'6"	17'5"	17'5"	17'5"	17'4"	17'2"	17'6"	12'0"	Tunnel No. 7 at M. P. 177½
6th Subdivision.	M. L., DeSmet to Paradise	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	Bridge No. 55
8th Subdivision.	Livingston to Gardiner	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
9th Subdivision.	Manhattan to Amsney	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
10th Subdivision	Sappington to Norris	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	Bridge No. 9
11th Subdivision	Whitehall to Alder	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
12th Subdivision	Drummond to Philipsburg	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	12'0"	Bridge O-1
13th Subdivision	Missoula to Darby	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	Bridge No. 4
14th Subdivision	Dixon to Polson	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
15th Subdivision	St. Regis to Wallace	20'6"	20'6"	20'6"	20'6"	20'5"	20'2"	19'9"	19'6"	19'3"	20'6"	12'0"	Tunnel No. 1—1 mile west of Borax
16th Subdivision	Wallace to Burke	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	12'0"	Bldg. at Gem
17th Subdivision	Wallace to Bunn	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	

Note—Limit of load measurements based on 52' cars with 42' truck centers. Heights and widths in table allow 6 inches clearance.

MAXIMUM CLEARANCES

Table is based on open car loading equally divided on either side of center line of car.

		LIMIT OF LOAD—MEASUREMENT										Governing Structure
		Height Above Top of Rail										
		8'6" Wide	9'0" Wide	9'6" Wide	10'0" Wide	10'6" Wide	11'0" Wide	11'6" Wide	12'0" Wide	Max. Height	Max. Width	
1st Subdivision...	M. L., Livingston to Helena.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'5"	20'2"	20'6"	12'0"	Bridge No. 113
2nd Subdivision..	M. L., Logan to Butte.....	16'11"	16'9"	16'6"	16'3"	15'11"	15'5"	14'10"	14'1"	18'2"	12'0"	Tun. No. 3 at M. P. 57½ and Homestake Tun.
1st Subdivision...	Bozeman to Logan, Low Grade Line...	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
3rd Subdivision..	M. L., Helena to Garrison.....	17'4"	17'1"	16'10"	16'6"	16'3"	15'10"	15'4"	13'8"	19'2"	12'0"	Iron Ridge & Mullan Tunnels
3rd Subdivision..	M. L., Garrison to Missoula.....	17'10"	17'5"	17'1"	16'8"	16'1"	15'5"	14'9"	13'9"	20'6"	12'0"	Garrison and Bonita Tunnels.
4th Subdivision..	M. L., Butte to Garrison.....	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	19'0"	12'0"	B. A. & P. Overhead.
5th Subdivision..	M. L., Missoula to Paradise.....	16'11"	16'7"	16'2"	15'10"	15'5"	14'11"	14'8"	14'3"	17'6"	12'0"	Tunnel No. 7 at M. P. 177½.
6th Subdivision..	M. L., DeSmet to Paradise.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'5"	20'6"	12'0"	Bridge No. 55.
8th Subdivision...	Livingston to Gardiner.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
9th Subdivision..	Manhattan to Anceney.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
10th Subdivision.	Sappington to Norris.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
11th Subdivision.	Whitehall to Alder.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'5"	20'6"	12'0"	Bridge No. 9.
12th Subdivision.	Drummond to Philipsburg.....	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	20'2"	12'0"	Bridge O-1.
13th Subdivision.	Missoula to Darby.....	20'5"	20'2"	20'0"	19'9"	19'6"	19'3"	19'0"	18'9"	20'6"	12'0"	Bridge No. 4.
14th Subdivision.	Dixon to Polson.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
15th Subdivision.	St. Regis to Wallace.....	19'0"	18'8"	18'5"	18'1"	17'10"	17'3"	16'7"	15'3"	20'6"	12'0"	Tunnel No. 1—1 mile west of Borax.
16th Subdivision.	Wallace to Burke.....	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	20'3"	12'0"	Bldg. at Gem.
17th Subdivision.	Wallace to Bunn.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	

TONNAGE RATINGS.

(Tonnage Shown is per Unit Rating.)

This rating is made to govern ruling grades only and will in no manner interfere with handling additional tonnage where the grades will permit.

WESTWARD	Ruling Grade	100-106 400-427 700-724 750 800-803	107-126	5400-5410	550-551 6500-6513 6550 6600-6601	244-245 6000-6006 6700 Series	500-501 552-569 850-862 6007-6020 6050	GP-9 F-9 Series
Livingston to West End.....	1.8	430	510	950	570	740	900	1100
West End to Townsend.....	.....	.....	.....	.....	.....	.....	.....	.....
Townsend to Winston.....	1.0	745	890	1500	985	1310	1640	1900
Winston to Helena.....	.....	.....	.....	.....	.....	.....	.....	.....
Logan to Whitehall.....	0.5	1310	1560	2830	1730	2250	2910	3340
Whitehall to Homestake.....	2.2	350	420	750	460	560	750	850
Sappington to Norris.....	2.2	.....	.....	750	.....	.....	.....	.....
Whitehall to Alder.....	1.0	.....	.....	1500	.....	.....	.....	.....
EASTWARD								
Helena to Placer.....	1.0	745	890	1500	985	1310	1640	1900
Placer to Logan.....	1.0	745	890	1500	985	1310	1640	1900
Logan to Bozeman (Via Manhattan).....	1.0	745	890	1500	985	1310	1640	1900

TONNAGE RATINGS.

(Tonnage Shown is per Unit Rating.)

This rating is made to govern ruling grades only and will in no manner interfere with handling additional tonnage where the grades will permit.

EASTWARD	Ruling Grade	100-106 400-427 700-724 750 800-803	107-126	5400-5410	550-551 6500-6513 6550 6600-6601	244 245 6000-6006 6700 Series	500-501 552-569 850-862 6007-6020 6050	GP-9 F-9 Series	W-3 W-5	Z-6 Z-7 Z-8
Logan to Bozeman (Via Powers).....	0.4	1530	1820	3310	2020	2630	3420	3900	.....	.....
Bozeman to Muir.....	1.9	410	480	900	540	700	850	1050	.....	.....
Butte to Homestake.....	2.2	350	420	750	460	600	750	850	.....	.....
Whitehall to Logan.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Norris to Sappington.....	1.3	.....	.....	1260	.....	.....	.....	.....	.....	.....
Paradise to Missoula (Via St. Regis)..	0.4	1530	1820	3310	2020	2630	3420	3900	4000	6500
Paradise - Dixon.....	0.4	1530	1820	3310	2020	2630	3420	3900	.....	.....
Dixon - Arlee.....	1.0	745	890	1500	985	1310	1640	1900	2000	.....
Arlee - Evaro.....	2.2	350	420	750	460	600	750	850	850	1400
Missoula - Garrison.....	0.4	1530	1820	3310	2020	2630	3420	3900	.....	.....
Garrison - Elliston.....	1.0	745	890	1500	985	1310	1640	1900	.....	.....
Elliston - Blossburg.....	1.4	550	650	1250	720	950	1250	1400	.....	.....

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TONNAGE RATINGS.

(Tonnage Shown is per Unit Rating.)

This rating is made to govern ruling grades only and will in no manner interfere with handling additional tonnage where the grades will permit.

EASTWARD										
Garrison - Stuart.....	0.7	1010	1200	2180	1330	1730	2240	2580	.....	.....
Stuart - Butte.....	1.0	745	890	1500	985	1310	1640	1900	.....	.....
Wallace - Dorsey.....	2.2	350	420	750	460	600	750	850	.....	.....
Dorsey - Lookout.....	4.0	180	215	370	240	310	400	460	.....	.....
Lookout - Sohon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
WESTWARD										
Helena - Blossburg.....	2.2	350	420	750	460	600	750	850	.....	.....
Missoula to Paradise (Via St. Regis)..	0.4	1530	1820	3310	2020	2630	3420	3900	.....	6500
DeSmet - Evaro.....	2.2	350	420	750	460	600	750	850	850	.....
St. Regis - Saltese.....	1.0	745	890	1500	985	1310	1640	1900	.....	.....
Saltese - Sohon.....	2.2	350	420	750	460	600	750	850	.....	.....
Sohon - Lookout.....	4.0	180	215	370	240	310	400	460	.....	.....
Lookout - Dorsey.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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W. W. WALTERS,
Asst. Supt.

L. H. DAHL,
Trainmaster.

M. W. SCOTT,
Asst. Supt.

J. G. HEIMSJO,
Trainmaster.

J. R. ULYATT,
Trainmaster,

J. R. GAMMILL,
Chief Dispatcher.