NORTHERN PACIFIC RAILWAY COMPANY

Rocky Mountain Division

Special Instructions No. 10

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

Sunday, January 1, 1950

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.

C. H. BURGESS,
Assistant General Manager.

C. W. COIL,
Superintendent.

J. F. ALSIP,
General Manager

R. E. MATTSON,
General Superintendent of Transportation.

ALL SUBDIVISIONS.

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

Passenger trains	75 MPH.
Freight and mixed trains	50 MPH.
"J" Manifest freight trains	35 MPH.

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

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 (RS).

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—Main Line	35 MPH.
Branch Lines	25 MPH.
Picking up train orders from operators	30 MPH.

Engines— Classes—	Handling trains	Running light
All 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, Y-1, Y-3	40 MPH.	35 MPH.
Z-3, Z-4	35 MPH.	30 MPH.
S-4, T, T-1, W to W-5 inc., Y-2	50 MPH.	45 MPH.
Steam switch engines, without engine trucks, under all conditions	15 MPH.	15 MPH.
660 HP diesel-electric switch engines, Nos. 125 to 131 inc.	45 MPH.	45 MPH.
5400 HP and 6000 HP diesel-electric road engines, 6000 series	65 MPH.	65 MPH.
4500 HP diesel-electric passenger engines, 6500 series	75 MPH.	65 MPH.
900 HP and 1000 HP diesel-electric switch engines and combination road-switch engines	60 MPH.	60 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, Y-1, Y-3	30 MPH.
Z-3, Z-4	25 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-3 inc.	25 MPH.
Z-3, Z-4	20 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-3 inc.	30 MPH.
Z-3, Z-4	25 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.

Dead 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.

Diesel engines—Except as otherwise provided, diesel-electric engines of the 6000 and 6500 series and all diesel switch engines may be operated over bridges under the same restrictions shown for Class T engines.

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 3 MPH).

Where diesel-electric multiple-unit engines are used to handle main line through passenger trains making few or no stops, the fireman will remain in the cab at all times while the train is in motion.

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.

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. 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.

5. Rule D-97 applies to all divisions.

6. Except in case of fogs, storms, or otherwise bad weather, yellow signals may be used, without flagmen, when placed as prescribed by Rule 10(h) to indicate approach to a red signal on Low Line (between Logan and Bozeman via Powers first subdivision) and on 8th, 9th, 10th, 11th, 12th, 13th, 14th and 15th subdivisions, and also in special cases authorized by the superintendent and protected by train order.

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

8. Test of hand brakes of gas-electric or diesel-electric motor cars must be made once each trip. If crew has charge of moving car prior to leaving initial station, test will be made during such movement; otherwise as soon as possible after leaving initial station. On cars equipped with "Deadman's Control", conductor and engineer will cooperate in making test.

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.

   Cranes or similar machines geared for self-propulsion moving on commercial billing, must not be handled in time freight trains.

   When handling pile driver 25, it must be coupled to either the regular tender or 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.

10. 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—To operate the lock, unlock and open the door:
    (a) If indicator shows proceed, turn lock handle to the left until it rests on stop block. Then line the switch in the usual manner and movement may be made at once.

(b) If indicator shows stop, and no conflicting train movement is evident, unlock the time release box and push the button which starts the time release. After three minutes indicator will normally show proceed, then turn the lock handle to the left and line the switch.

(c) After final movement over the switch is made:

Restore and lock switch in normal position.

Turn the electric lock handle to the right until it rests on the stop block.

Close and lock the door of the electric lock.

(d) Exception: If the electric lock is equipped with a wire seal emergency release, located at the left of the indicator, the seal must not be broken until after the time release has been operated and the electric lock fails to show proceed.

When emergency release is used, there must be a wait of three minutes before switch is lined for movement.

After emergency release seal has been broken, immediately notify the train dispatcher so he may call the signal maintainer to reset the emergency release, as the signals will remain at stop until repairs are made.

12. Signal Operation at Spring Switches Equipped for Switch Key Operation—Unless otherwise provided, the normal position of the spring switch is for main track. The normal indication of main track signals 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.

13. On double track, trains handling logs will not be permitted to meet passenger trains between stations. Conductors will notify train dispatcher when there are logs in their trains and secure train order that passenger trains will be held at next station until they have arrived. On single track, trains handling logs when meeting passenger trains will not proceed unless the passenger train is standing still or has moved by the log cars. Conductors of all trains picking up logs must know personally that cars are not overloaded or improperly loaded and are safe to move without loss of lading.

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

15. Mountain Grade Operation—

At meeting points:

Unless otherwise directed, the ascending train will take siding.

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

Trains 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.

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, Bozeman, Logan, Whitehall, Butte, Helena, Garrison, Missoula, Wallace and Paradise.

18. Watch Inspectors:—
Riley Jewelry Co., Livingston. S. V. Justus, Whitehall.
Bozeman Jewelry Co., Bozeman. R. W. Crawford, Helena.
S. and S. Jewelry Co., Butte. Kohn Jewelry Co., Missoula.
H. E. Rakeman, Polson. H. M. Hueman, Wallace.

FIRST SUBDIVISION.

(Main Line)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight and Mixed	Passenger
Livingston and Muir		
Ascending	40	40
Descending	25	36
Ascending or Descending against the current of traffic	20	25
Muir and West End	30	30
West End and 1400 ft. west of MP 135 (3 miles west of Chestnut)		
Ascending	30	30
Descending	....	36
When using retaining valves	25	....
When not using retaining valves	28	....
Light engines	20	....
Ascending or Descending against the current of traffic	20	25
1400 ft. west of MP 135 and Logan	50	75
except, between Bozeman and Logan, via Powers	35	35
Logan and MP 191 (Brewer)	50	60
MP 191 and Helena	50	65
At Belgrade Tower Interlocking, via Powers { westward	20	20
{ eastward	40	40

At Livingston, from crossover leading from eastward track to hump track and into yard ..... 8 MPH.

2. **Bridge and Engine Restrictions—**

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

At Livingston—Engines classes Z-5, Z-6, Z-7 and Z-8 cannot be moved over shop lead.

No simultaneous movement of Z-4, Z-5, Z-6, Z-7 or Z-8 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, engines must not pass over coal dock hopper pit.

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 Manhattan, Class W-3 and heavier engines must not use wye.

At Logan, engines heavier than Class W not permitted on hopper pit of coal dock.

At Trident—No. 5 track cannot be used across coal hopper at cement plant. On tracks 2 and 3 hold onto enough cars so that engine does not pass the chutes located on these tracks.

Engines class Z-6 and heavier not permitted on cement plant tracks north of the siding.
At Townsend, engines must not pass over coal dock hopper pit.
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, 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.

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, track to upper yard.
Story, spur.
Belgrade, elevator track south of main track.
Manhattan, all tracks except siding and house track.
Trident, tracks 5 and 6 over hoppers at cement plant.
Clarkston, spur.
Lombard, spur leading off west end of siding.
Brewer, spur.
Townsend, mill spur, wye and stock tracks.
Clow, spur.
Winston, house track.
Placer, spur.
Louisville, spur from crossing to end.
Penwell, spur.
East Helena, all tracks except sidings.

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 switch just east of the station platform for all eastward train movements to Low Line, but authority must be obtained from the train dispatcher before lining the switch. When trains are directed by train order to wait for or meet a train at the Low Line switch, it refers to the switch just east of the station platform.

Eastward freight trains must not block highway crossing west of passenger station between 7:00 a. m. and 5:00 p. m., when delayed for any cause, except taking water.

5. **Between Muir and West End—Single track**—Bozeman tunnel, Interlocking Rules govern except that for movement to single track, Rule 663(A) is modified to require train order authority to pass interlocking Stop signal.

Rule S-83 will not apply. Switching movements inside the interlocking limits may be made on authority from operator at West End, 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 Bozeman**—Normal position of double track switch is for eastward track. Normal position of Low Line switch is for the main track via Manhattan.

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

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

At Helena, spring switch at east end of lead extension, equipped with facing point lock, normal position for main track.

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

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

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 Bozeman.

At West End, dual control switch at end of double track.

At Muir, dual control switch at end of double track and at west end of siding, and may be electrically operated with remote control by the operator at West End.

At Livingston, spring switch at west end of yard lead on westward main track, not equipped with facing point lock, normal position for yard lead.

9. **Sidings**—

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

At East Helena—south siding is eastward; north siding is westward.

At Helena—second track north of passenger station is siding for passenger train and/or engine extra trains.

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

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

12. **Mountain Grade Operation**—

Mountain grade between Livingston and 1400 ft. west of MP 135, three (3) miles west of Chestnut. See all subdivisions item No. 15.

Air brake tests must be made in accordance with Air Brake Rule 35 before leaving Bozeman and Livingston.

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

Eastward—West End to Livingston Yard

Westward—Muir to Helena and Butte.

On eastward freight or mixed trains, handled by **steam** engine, retaining valve handles must be turned up on all loads and one-half the empties, alternating the empties, at Bozeman or before leaving West End, and turned down when stop is made in yard at Livingston.

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

On eastward freight or mixed trains, handled by **diesel-electric** engine, retaining valve handles must be turned up on two-thirds (66⅔%) of cars, beginning at head car, at Bozeman or before leaving West End, and turned down when stop is made in yard at Livingston.

On westward freight or mixed trains, handled by **steam** engine, having tonnage exceeding 55 tons per brake, retaining valve handles must be turned up on one-half (50%) of the cars, beginning at head car, at Livingston or before leaving Muir, and turned down at Bozeman. On such trains having tonnage less than 55 tons per brake, use no retainers.

On westward freight or mixed trains handled by **diesel-electric** engine, use no retainers.

In the event of failure of the dynamic brake feature on any unit of diesel-electric engine, the 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 similar to the requirements specified in paragraphs above for trains handled by steam engine.

Conductor must instruct brakemen accordingly and notify the engineer when the specified number of retaining valve handles have been turned up, after which train may proceed controlled by the air brakes.

13. **Pusher District**—Between Livingston and Bozeman and between Townsend and Helena.

When two helper engines, class A or heavier, are used over Bozeman mountain, one engine will be placed ahead of caboose.

14. **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.

15. **Register Stations**—

Livingston, Bozeman, Logan, Helena.

16. **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 and Mixed	Passenger
Logan and MP 16 (3 miles east of Sappington)	50	75
At Sappington Interlocking		
Westward	40	40
Eastward	45	55
MP 16 and MP 43 (two miles east of Pipestone)	50	65
MP 43 and Spire Rock—Ascending	30	30
Descending	20	30
Spire Rock and Homestake—Ascending	30	30
Descending	20	25
Homestake and MP 68 (east of MU Transfer)—Ascending	30	30
Descending	20	30
MP 68 and Butte	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—engines classes A-2 to A-5 inc. ..... 55 MPH.
Same classes, doubleheaded ..... 50 MPH.
Bridge 51, Spire Rock Viaduct and Bridge 52, Pipestone Viaduct —Engines class Z-5 ..... 10 MPH.
Engines classes Z-7 and Z-8 ..... 20 MPH.
Engines classes A-2 to A-5 inc. ..... 30 MPH.
Bridge 63, Highview Viaduct engines classes Z-5 to Z-8 inc. ..... 10 MPH.
Other engines ..... 15 MPH.
At Logan, engines heavier than class W not permitted on hopper pit of coal dock.

At Whitehall, engines heavier than class W not permitted on oil spur and engines must not pass over coal dock hopper pit.

Engines not permitted beyond four rail lengths east of frog of coal storage spur.

Between Whitehall and Butte engines classes A-2 to A-5 inc. or Z-5 to Z-8 inc., must not be doubleheaded.

Engines classes A to A-5 inc. and Z-5 to Z-8 inc., not permitted on following tracks:

Willow Creek, house and stock yard.
Welch, quarry spur.
Homestake, back tracks.
M. U. Transfer, coal dock track and 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 No. 15.

   Eastward freight or mixed trains will stop at Spire Rock to cool wheels and inspect train.

   Air brake test must be made in accordance with Air Brake Rule 35 before leaving Butte or Highview on eastward, and Whitehall or Homestake on westward freight or mixed trains.

   90 pounds brake pipe pressure must be maintained on freight and mixed trains in both directions between Whitehall and Butte descending mountain grade, and also Whitehall to Livingston, and conductors must know by caboose gauge that this pressure is attained before making terminal test.

   On westward freight or mixed trains, at Whitehall or Homestake, retaining valve handles must be turned up on all cars and turned down at Butte.

   On eastward freight or mixed trains, at Butte or Highview, retaining valve handles must be turned up on all cars and turned down at Whitehall.

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 Homestake and west of Highview operated as one yard.

   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.

THIRD SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight and Mixed	Passenger
Helena and east switch Birdseye	50	60
except G. N. Crossing Interlocking	50	50
Birdseye (east switch) and Austin		
Ascending	30	30
Descending	20	35
Austin and Blossburg		
Ascending	30	30
Descending	20	25
Through Mullan tunnel, use not less than		Two and one-half minutes
Blossburg and MP 51 (Garrison)	50	70
Both Tracks—		
MP 51 and Missoula	50	75
At Missoula, within city limits,		
At grade crossings		30 MPH.
Elsewhere		45 MPH.

2. **Bridge and Engine Restrictions—**

Between Helena and Blossburg engines classes A-2 to A-5 inc. or Z-5 to Z-8 inc. must not be doubleheaded.

At Blossburg, engines Classes W-3 or lighter and Class Z-3 only, 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.

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.
Vent Plant, spur.
Blossburg, Clay pit spur.
Sampson, 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, all tracks in ACM Co. yard except High Line to first highway crossing.

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 and 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**—Time of train No. 4 applies at boot track switch located just east of passenger station.

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

Westward trains arriving will be governed by the indication of the interlocking signal at double track switch.

5. **At Ventilating Plant**—When leaving cars on tail of spur, the switch must be lined for the track leading to the trestle.

6. **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 may be electrically operated with remote control by the operator at train order office.

7. **Sidings—**

At Helena, second track north of passenger station is siding for passenger trains and/or engine extra trains.

At Austin, south siding is westward, north siding is eastward.

At Blossburg, south siding is eastward; north siding is westward.

8. **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 30 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 signal displaying Approach or Proceed indication.

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. Vent Plant, spur.
Austin, eastward siding east and west switches.

Dispatcher controlled locks—Elliston, storage track No. 1, east and west switches.
Blossburg, westward siding east and west switches.

9. **Mountain Grade Operation** — Mountain grade between east switch Birdseye and Blossburg. See all subdivisions item No. 15.

Eastward freight and mixed trains:

Air brake tests must be made in accordance with Air Brake Rule 35 before leaving Garrison or Blossburg. When the test is made at Garrison, a brake pipe test must be made at Blossburg before retaining valve handles are turned up and following the parting of the hose between the helper engine and caboose. If, for any reason, the brake pipe or hose couplings have been parted after the test is made at Garrison, a terminal test must be made at Blossburg and a second card filled out.

The air brakes must be charged to a maximum of 90 pounds brake pipe pressure at Blossburg and conductors must know by caboose gauge that this pressure is attained before making terminal test, and 90 pounds brake pipe pressure must be maintained descending mountain grade.

Retaining valve handles must be turned up before leaving Blossburg on all loaded cars and on one-half the empties, alternating the empties.

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

Trains handled by **steam** engine must stop at Austin to cool wheels and inspect train and at Fort Harrison to turn down retaining valve handles, inspect train and cool wheels.

Trains handled by **diesel-electric** engine need not stop at Austin to cool wheels and inspect train unless there is evidence of wheels being overheated or when air pressure indicated on the caboose gauge shows less than 75 pounds approaching Austin. Stop must be made at Fort Harrison to turn down retaining valve handles, inspect train and cool wheels.

Engine men and head brakeman must be on the look-out for stop signals given by conductor at rear of train approaching Austin.

Trains handled by **diesel-electric** engine not having the dynamic brake feature operative on all units must stop at Austin to cool wheels and inspect train, and at Fort Harrison to turn down retaining valve handles, inspect train and cool wheels.

Ventilating plant east end of Mullan Tunnel will be operated as follows:

When fan is in operation westward freight trains will not exceed a speed of seven (7) MPH through Mullan Tunnel, and when there is a helper engine on rear of train, lead engine will so regulate the speed that the entire train will not exceed this speed through the tunnel.

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

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

At Helena, when two 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.

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

12. **Pusher District** between Garrison and Blossburg.
At Blossburg—Pusher engines will come to full stop after cutting off from train, and will not turn headlight on until caboose has passed telegraph office.

13. **Register Stations—**
Helena Yard, Garrison, Missoula.

14. **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.

FOURTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight and Mixed	Passenger
Butte and Hackney	50	60
Hackney and Garrison	50	65
except Dempsey—Interlocking		
Eastward	45	60
Westward	50	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**—Bridges 11-1 and 11-2 Silver Bow Creek between Silver Bow and Hackney:
Engines classes Z-5, Z-7 and Z-8.....30 MPH.
Engines classes A and heavier not permitted on following tracks:
Stuart, spur.
Dempsey, spur.
Kohr, siding.
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.
Deer Lodge, back tracks, except Milwaukee Transfer.

3. **At Stuart**—Spur switch spiked.

4. **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.

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

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

7. **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 and Mixed	Passenger
Missoula and DeSmet both tracks	50	70
DeSmet and Paradise	50	60
except, Huson—Interlocking	45	50

At Missoula, within city limits,
At grade crossings ..... 30 MPH.
Elsewhere ..... 45 MPH.

2. **Bridge and Engine Restrictions—**

Bridge 168, near Rivulet, engines classes A-2 to A-5, inc., Z-5 to Z-8, inc. ..... 20 MPH.

Engines classes A to A-5 inc. and Z-5 to Z-8 inc. not permitted on following tracks:
Grass Valley, beyond clearance points.
Rivulet, coal dock beyond clearance points.
Westfall, spur beyond clearance points.
St. Regis, engine house and house track.
Quinns, spur beyond clearance point.
Lothrop log spur, engines heavier than Class W-5, not permitted beyond 200 ft. west of switch.
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.
Paradise—West switch, equipped with facing point lock.

4. **Extra Trains**—Between Missoula and Paradise will run via Fifth Subdivision unless otherwise instructed by train order.

Eastward extra trains may run ahead of first class trains Desmet to Missoula without train order authority, avoiding delay to the greatest practicable extent.

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

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

SIXTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight and Mixed	Passenger
DeSmet and one mile west	50	75
One mile west of DeSmet and MP 19 (east of Arlee)		
Descending	20	30
Ascending	30	30
MP 19 and MP 34 (three miles west of Ravalli)	50	75
MP 34 and MP 49 (2 miles east of Perma)	50	65
MP 49 and Paradise	50	75

At Ravalli—Over sawmill crossing east of passenger station, westward trains ..... 20 MPH.

2. **Bridge and Engine Restrictions—**

Bridge 55, Flathead River—
Engines classes A-2 to A-5 inclusive, W-3 and 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.

Engines classes A-2 to A-5 and Z-5 to Z-8 inclusive, not permitted on following tracks:
Evaro—Spur track and beyond 200 feet north of wye stem switch.

Arlee—House track and beyond 200 feet north of wye stem switch.
Flathead—Spur.
Ravalli—House track and stock spur.
Dixon—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**—House track will be used as siding for westward first class and passenger extra trains.

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**—Mountain grade between one (1) mile west of DeSmet and two (2) miles east of Arlee. See all subdivisions item No. 15.

   Air brake tests must be made in accordance with Air Brake Rule 35 before leaving Evaro. On freight and mixed trains the air brakes must be charged to a maximum of 90 pounds brake pipe pressure at Evaro and conductors must know by caboose gauge that this pressure is attained before making terminal test, and 90 pounds brake pipe pressure must be maintained descending mountain grade.

   On freight or mixed trains, retaining valves must be used on all cars, Evaro to just west of MP 3 (west of DeSmet) and Evaro to Arlee.

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**— Maximum Speeds Permitted
   Zone—Between
   Livingston and Gardiner ..... 40 MPH.
   At Gardiner, on circle ..... 10 MPH.

2. **Bridge and Engine Restrictions**—Engines A-2 and heavier not permitted.

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

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

NINTH SUBDIVISION.

(CAMP CREEK BRANCH)

1. **Speed Restrictions**— Maximum Speeds Permitted
   Zone—Between
   Manhattan and Anceney ..... 20 MPH.

2. **Bridge and Engine Restrictions**—Class W-3 and heavier not permitted.

3. **At Manhattan**—Train order signal does not govern ninth subdivision trains.

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

5. **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.

TENTH SUBDIVISION.

(RED BLUFF BRANCH)

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

   Zone—Between

   Sappington and two miles west ..... 25 MPH.

   Two miles west of Sappington and Two miles east of Harrison, Mountain Grade,

   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**—Engines heavier than Class W not permitted beyond 300 feet west of west wye switch at Sappington.

   Bridge 14, Norwegian Gulch ..... 10 MPH.

   Bridge 2—Wrecking cranes 45, 46, 47 or 48 not permitted.

   Heavy Car Restrictions, Bridge 2, Antelope Creek:

   Trains handling cars with total weight exceeding 214,000 pounds, or cars less than 30 ft. long with total weight exceeding 169,000 pounds in groups or coupled to engine or tender..... 10 MPH.

   If such short 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 Operation**—Mountain grade two (2) miles west of Sappington to two (2) miles east of Harrison.

   Retaining valves must be used on all cars Harrison to Sappington.

   See all subdivisions item No. 15.

4. **Register Stations**—

   Sappington, Norris.

5. **Clearance Exceptions**—

   At Sappington—No. 823 will not require a clearance.

ELEVENTH SUBDIVISION.

(RUBY VALLEY BRANCH)

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

   Zone—Between

   Whitehall and Alder ..... 25 MPH.
   except at Interlocking, 2 miles west of Whitehall.... 20 MPH.

2. **Bridge and Engine Restrictions**—Engines Classes W-3 and heavier not permitted west of CMStP&P crossing.

   Bridge 9, Jefferson River:

   Heavy cars, over 169,000 pounds gross weight and less than 30 feet long, and all cars over 214,000 pounds not permitted except on authority of superintendent.

   Cars over 169,000 pounds and 30 feet or longer, 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**—Train order signal does not govern eleventh subdivision trains.

   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—** Maximum Speeds Permitted

   Zone—Between

   Drummond and Philipsburg ..... 25 MPH.

   except, Drummond—Interlocking ..... 20 MPH.

2. **Bridge and Engine Restrictions—**

   Engines Classes Q-1, T and heavier not permitted beyond 150 feet west of switch on stem of wye track at Drummond.

   Bridge 0.1, Hellgate River—

   Engines class S-4 ..... 8 MPH.

   Wrecking cranes 41, 42, 43 or 44 and pile driver 25 must be spaced from engine with one empty car and not exceed..15 MPH.

   Wrecking cranes 45, 46, 47 or 48 not permitted.

   Heavy Car Restrictions, Bridges 0-1 and 14—Cars with total weight exceeding 214,000 pounds not permitted.

   Cars with total weight exceeding 169,000 pounds must be separated from each other and engine or tender with one car 40 ft. long with total weight not over 169,000 pounds and trains handling not exceed ..... 8 MPH.

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

4. **Register Stations**—Drummond, Philipsburg.

5. **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—**

   Bridge O, Missoula River—Engines Class Z-5 not permitted.

   Engines Classes A-2 to A-5 inc., Z-6, Z-7 and Z-8..... 10 MPH.

   Engines Classes A, A-1, Z-3 and Z-4 ..... 20 MPH.

   Between Post and Darby, engines classes heavier than W, not permitted.

   Bridges 4, 11-1 and 23-2, trains handling wrecking cranes 45, 46, 47 or 48 ..... 15 MPH.

   Bridge 51—Engines ..... 20 MPH.

   Wrecking cranes 45, 46, 47 or 48 not permitted.

   Bridges 4, 11-1, 23-2 and 51.

   Heavy Car Restrictions—

   Cars with total weight exceeding 214,000 pounds not permitted except on authority of superintendent.

   Cars 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 and Mixed	Passenger
Dixon and Polson	25	30

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

3. **At Dixon**—Train order signal does not govern fourteenth subdivision trains.

4. **Register Stations**—Dixon, Polson.

FIFTEENTH SUBDIVISION.

(COEUR D'ALENE BRANCH)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted Freight and Mixed	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**—
Between MP 29 (between Saltese and Borax) and Wallace, all W classes engines not permitted.
Between Haugan and Wallace, engines classes A, Z-3 and heavier not permitted, except engines 4020, 4021, 4022 and 4025 are 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 South Fork of Coeur d'Alene River—Wallace Yard:
Engines classes Q-5, Q-6, W-3, W-5 and Z-3 ..... 5 MPH.
Classes Q-4, S-4, T and W and lighter ..... 10 MPH.
Bridge 57-A—On scale track opposite Bridge 57, all engines prohibited standing or moving.
Wrecking cranes 41, 42, 43 or 44 and pile driver 25
Bridge 57 ..... 15 MPH.
Not permitted on Bridge 57-A.
Wrecking cranes 45, 46, 47 or 48 not permitted on Bridges 57 or 57-A.
Heavy Car Restrictions—Bridges 57 and 57-A:
Cars with total weight exceeding 214,000 pounds not permitted except on authority of superintendent.
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 and trains handling not over ..... 10 MPH.

3. **At St. Regis**—Train order signal does not govern Fifteenth Subdivision trains.

4. **At Lookout**—Rule 91 is modified to require trains and engines in either direction to keep not less than twenty (20) minutes apart.
South siding is eastward, north siding is westward.

5. **Mountain Grade Operations**—Mountain grade between Saltese and Mullan. See all subdivisions item No. 15. Air brake test must be made in accordance with Air Brake Rule 35 before leaving Lookout.

   The air brakes must be charged to a maximum of ninety (90) pounds pressure on freight trains at Lookout, and conductors must know by caboose gauge that this pressure is attained before making terminal test. Enginemen will maintain a working basis of ninety (90) pounds, Lookout to Saltese and Lookout to Mullan.

   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.

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

7. **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 Operations**—Mountain grade between Burke and Wallace. At the initial point of descent and trains originating east of and picking up at Dorn will make air brake test in accordance with Air Brake Rule 35.

   The air brakes must be charged to a maximum of ninety (90) pounds pressure on freight trains at Burke and conductors must know by caboose gauge that this pressure is attained before making terminal test. Enginemen will maintain a working basis of ninety (90) pounds pressure Burke to Wallace.

   Retaining valves must be used on all cars Burke to Wallace. See all subdivisions item No. 15.

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**—Mountain grade between Bunn and Wallace. Air brake test will be made in accordance with Air Brake Rule 35 before leaving Bunn.

   The air brakes must be charged to a maximum of ninety (90) pounds pressure on freight trains at Bunn and conductors must know by caboose gauge that this pressure is attained before making terminal test. Enginemen will maintain a working basis of ninety (90) pounds Bunn to Wallace.

   Retaining valves must be used on all cars Bunn to Wallace. See all subdivisions item No. 15.

4. **Register Station**—Wallace.

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										
		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 Logan...	19′9″	19′7″	19′5″	19′2″	18′11″	18′7″	18′2″	18′0″	17′9″	19′9″	11′6″	Hoppers Tunnel
1st Subdivision.	M. L., Logan to Helena.....	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	11′6″	
2nd Subdivision.	M. L., Logan to Butte.....	18′4″	18′4″	18′3″	18′1″	18′0″	17′10″	17′7″	17′5″	17′3″	18′4″	11′6″	Homestake Tunnel and Tunnel 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′6″	20′6″	20′6″	20′6″	11′6″	
3rd Subdivision.	M. L., Helena to Garrison....	19′2″	19′1″	18′11″	18′9″	18′7″	18′4″	18′0″	17′9″	17′7″	19′2″	11′6″	Iron Ridge Tunnel
3rd Subdivision.	M. L., Garrison to Missoula..	20′6″	20′6″	20′6″	20′2″	19′9″	19′3″	18′9″	18′6″	18′1″	20′6″	11′6″	Garrison and Bonita Tunnels
4th Subdivision.	M. L., Butte to Garrison.....	19′3″	19′3″	19′3″	19′3″	19′3″	19′3″	19′3″	19′3″	19′3″	19′3″	11′6″	B. A. & P. Overhead
5th Subdivision.	M. L., Missoula to Paradise...	17′11″	17′11″	17′11″	17′11″	17′11″	17′9″	17′6″	17′4″	17′3″	17′11″	11′6″	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″	11′6″	
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″	11′6″	
9th Subdivision.	Manhattan to Anceney.....	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	20′6″	11′6″	
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″	11′6″	
11th Subdivision	Whitehall to Alder.....	19′6″	19′6″	19′6″	19′6″	19′6″	19′6″	19′6″	19′6″	19′6″	19′6″	11′6″	Bridge No. 9 Jefferson River
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″	11′6″	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″	11′6″	
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″	11′6″	
15th Subdivision	St. Regis to Wallace.....	20′6″	20′6″	20′6″	20′6″	20′6″	20′3″	19′10″	19′7″	19′4″	20′6″	11′6″	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″	11′6″	
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″	11′6″	

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	10'2" Wide	10'6" Wide	11'0" Wide	11'6" Wide	Max. Height	Max. Width	
1st Subdivision...	M. L., Livingston to Logan.....	17'5"	17'2"	16'10"	16'5"		16'0"	15'6"	14'11"	19'9"	11'6"	Hoppers Tunnel
1st Subdivision...	M. L., Logan to Helena.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
2nd Subdivision..	M. L., Logan to Butte.....	17'1"	17'0"	16'10"	16'6"		16'1"	15'6"	14'9"	18'4"	11'6"	Tunnel No. 3 at M. P. 57½ and Homestake Tunnel.
1st Subdivision...	Bozeman to Logan, Low Grade Line...	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
3rd Subdivision..	M. L., Helena to Garrison.....	17'4"	17'1"	16'9"	16'6"		16'2"	15'10"	15'5"	19'2"	11'6"	Iron Ridge Tunnel
3rd Subdivision..	M. L., Garrison to Missoula.....	17'9"	17'5"	17'0"	16'6"		16'0"	15'5"	14'9"	20'6"	11'6"	Garrison and Bonita Tunnels.
4th Subdivision..	M. L., Butte to Garrison.....	19'3"	19'3"	19'3"	19'3"		19'3"	19'3"	19'3"	19'3"	11'6"	B. A. & P. Overhead.
5th Subdivision..	M. L., Missoula to Paradise.....	17'1"	16'10"	16'5"	16'1"		15'8"	15'3"	14'10"	17'11"	11'6"	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"	11'6"	
8th Subdivision...	Livingston to Gardiner.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
9th Subdivision..	Manhattan to Anceney.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
10th Subdivision.	Sappington to Norris.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
11th Subdivision.	Whitehall to Alder.....	19'6"	19'6"	19'6"	19'6"		19'6"	19'6"	19'6"	19'6"	11'6"	Bridge No. 9 Jefferson River.
12th Subdivision.	Drummond to Philipsburg.....	20'2"	20'2"	20'2"	20'2"		20'2"	20'2"	20'2"	20'2"	11'6"	Bridge O-1.
13th Subdivision.	Missoula to Darby.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
14th Subdivision.	Dixon to Polson.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	
15th Subdivision.	St. Regis to Wallace.....	19'1"	18'10"	18'6"	18'2"		17'10"	17'4"	16'9"	20'6"	11'6"	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"	11'6"	
17th Subdivision.	Wallace to Bunn.....	20'6"	20'6"	20'6"	20'6"		20'6"	20'6"	20'6"	20'6"	11'6"	

TONNAGE RATINGS.

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	ENGINES								
	Ruling Grade	Diesel 5400 H. P.	Class W	Class W3	Class Z3	Class Z4	Class Z6 Z7 Z8	Class Z5	
Livingston to West End	1.8	2800	950	1240	1900	2320	2200	3000	....
West End to Townsend	....	....	....	....	....	....	....	....	....
Townsend to Winston	1.0	4870	1400	2050	....	....	3700	4000	....
Winston to Helena	....	....	....	....	....	....	....	....	....
Logan to Whitehall	0.5	7000	2500	3240	....	....	6000	6500	....
Whitehall to Homestake	2.2	2250	700	850	1250	1550	1300	1700	....
Sappington to Norris	2.2	....	....	....	....	....	....	....	....
Whitehall to Alder	1.0	....	....	....	....	....	....	....	....
EASTWARD									
Helena to Placer	1.0	4870	1400	2050	....	....	3700	4000	....
Placer to Logan	1.0	4870	3000	4000	....	....	....	4000	....
Logan to Bozeman (Via Manhattan)	1.0	4870	1600	2260	....	....	4000	4000	....
Logan to Bozeman (Via Powers)	0.4	7500	2750	4000	....	....	7000	7300	....
Bozeman to Muir	1.9	2650	900	1250	1850	2320	1950	2850	....
Butte to Homestake	2.2	2250	600	850	1100	1300	1300	1700	....
Whitehall to Logan	....	....	....	....	....	....	....	....	....
Norris to Sappington	1.3	....	....	....	....	....	....	....	....

TONNAGE RATINGS.

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

	ENGINES							
EASTWARD	Ruling Grade	Diesel 5400 H. P.	W Sup.	W-3	W-5	Z-3	Z-4	Z-6 Z-7-8
Paradise to Missoula (Via St. Regis)....	0.4	7500	2800	4000	4500	....	....	6500
Paradise - Dixon....	0.4	7500	2800	.....	....	....	....	....
Dixon - Arlee.....	1.0	4870	1800	2000	....	....	....	....
Arlee - Evaro.....	2.2	2250	700	850	850	....	....	1400
Missoula - Garrison..	0.4	7500	2400	3700	....	4500	....	7000
Garrison - Elliston..	1.0	4870	1600	2000	....	2500	....	3700
Elliston - Blossburg..	1.4	3575	1100	1500	....	2100	....	2700
Garrison - Stuart....	0.7	....	1800	2500	....	....	....	4200
Stuart - Butte.....	1.0	4870	1500	2100	....	....	....	3700
Wallace - Dorsey....	2.2	.....	.....	850	....	1200	....	....
Dorsey - Lookout...	4.0	....	....	....	....	600	....	....
Lookout - Sohon....	Down	....	Limit	2600	tons	....	....	....
WESTWARD								
Helena - Blossburg..	2.2	2250	700	850	....	1150	1550	1400
Missoula to Paradise (Via St. Regis)....	0.4	7500	....	....	....	....	....	6500
DeSmet - Evaro....	2.2	2250	700	850	850	....	....	....
St. Regis - Saltese...	1.0	.....	.....	.....	....	2500	....	....
Saltese - Sohon.....	2.2	....	....	....	....	1200	....	....
Sohon - Lookout....	4.0	....	....	....	....	600	....	....
Lookout - Dorsey...	Down	....	Limit	2000	tons	....	....	....

F. G. COOK,
Ass't Supt.

H. LIVESEY,
Ass't Supt.

J. R. ULYATT,
Trainmaster.

J. A. BRYAN,
Trainmaster.

C. L. ALLEN,
Trainmaster.

H. B. AVERY,
Chief Dispatcher.