NORTHERN PACIFIC RAILWAY COMPANY

Rocky Mountain Division

Special Instructions No. 13

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

Sunday, August 17, 1958

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.

J. O. DAVIES,
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.
Other freight and mixed trains	50 MPH.
603 "B" "BB" "BBB" and "BL" manifest freight trains	55 MPH.
Trains handling rip rap loaded on Flat Cars	35 MPH.
Trains handling air dump cars 89000 to 89059 series	35 MPH.
Trains handling loaded Ore cars (except standard 40 foot or longer Gondola or Hopper type cars loaded with ore	40 MPH.
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 8000 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, 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 252, 253 and 254. Main Line	35 MPH.
Handling 4-wheel scale test cars and scale test car 252, 253 and 254. Branch Lines	25 MPH.
Picking up train orders from operators	30 MPH.

Diesel-electric engines	**Handling Trains**	**Running Light**
No. 98	35 MPH.	35 MPH.
No. 99	50 MPH.	50 MPH.
No. 100	40 MPH.	40 MPH.
100 series	60 MPH.	60 MPH.
400 and 600 series	45 MPH.	45 MPH.
Nos. 500, 501 and 552-569, incl.	65 MPH.	65 MPH.
No. 525	60 MPH.	60 MPH.
Nos. 550-551	75 MPH.	65 MPH.
700 series	45 MPH.	45 MPH.
Nos. 800-803	60 MPH.	60 MPH.
850-860 series	65 MPH.	65 MPH.
6000, 7000, 200 and 300 series except 244 and 245	65 MPH.	65 MPH.
244, 245, 6500, 6600 and 6700 series	75 MPH.	65 MPH.
5400 series	55 MPH.	55 MPH.

Diesel-electric and gas-electric motor cars in service or being towed:

Car B-13	55 MPH.
Cars B-6, B-11 and B-15 to B-26, inc.	65 MPH.
Cars B-30, B-40 and B-41	75 MPH.

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 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.

When two four-unit diesel engines 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 3 MPH).

In the event a Diesel engine is stopped in a Tunnel due to any condition preventing prompt movements with indications of remaining in Tunnel for an unusual period diesel propulsion engines must be promptly shut down and the Clarkston Steam Generator also shut off.

Passenger cars equipped with Waukesha Air Conditioning must have both the ice Engine and Engine Generator shut off.

During freezing weather Diesel engines when shut off must have cooling water drained to winter level, and if in judgment of crew completely drained to prevent freezing and damage to Engine.

When Diesel propulsion engines are shut off, in addition to insuring Air brakes are fully applied, a chain must be placed securely at front and rear of a traction wheel for blocking and sufficient hand brakes fully applied throughout train to insure against movement in event air brakes leak off.

Prevailing conditions actually existing should be carefully considered, as there may be instances where the exhausts from Diesel Engines and steam generators are being carried away from train due to air currents or proximity to Tunnel opening to make the necessity for shutting down these facilities needless.

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.

3. Use of warning headlight (Mars or Gyralite) on engines so equipped:

The warning headlight can be displayed either white or red, in either stationary or oscillating position, at the same time the standard headlight is used.

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

The warning oscillating red headlight will be used when head end protection is required, either by day or by night, by engineer control, if the train becomes disabled or if 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, independent of the standard headlight.

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

Except in C.T.C. Territory the warning red headlight will be displayed in stationary position in addition to the standard white headlight 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 will be extinguished, and the standard white headlight turned on dim until the opposing train is into clear on siding.

The use of the warning red headlight does not in any manner relieve the train or enginemen 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 this Division.

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.

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

Roller bearing failures on cars or engines 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.

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—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 overloaded 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 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 engines when tonnage in train does not exceed that which the engine can handle ascending grade without helper, providing the dynamic brake is operative on all units of the engine.

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

Trains handled by engine on descending grades, having dynamic brake operative on all units and tonnage of train exceeds the tonnage rating of engine 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.

Maintaining Method of Braking on Descending Grades:

Trains handled by diesel-electric engine, 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 engine, 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 not exceeding 2.2% descending:

4 unit	diesel-electric engine	5,250 tons
3 unit	diesel-electric engine	3,900 tons
2 unit	diesel-electric engine	2,600 tons
1 unit	diesel-electric engine	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 engine 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. The following rules and instructions govern operation by signal indication Centralized Traffic Control (CTC):

400. The movement of train 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 must 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 must 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.

Switching at stations will be authorized by train dispatcher as required, advising length of time available and when main track must be cleared.

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.

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 signal to take siding 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 signal to take siding indication is displayed.

408. 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 may be returned to power position.

409. 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.

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

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

412. 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 within one rail length in advance of the switch points.

413. Mechanical release seal must not be broken or emergency release operated without authority of train dispatcher. If electric lock is 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. Wire report to Superintendent when seal is broken must be made at first opportunity.

414. 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.

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

416. Sand must not be used over movable parts of power operated switches, or between signals which govern movements over these switches.

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

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

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

19. Watch Inspectors:—
Jack Robb, Livingston. Wilbur Gaebe, 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—** Maximum Speeds Permitted

Zone—Between	Freight	603 Manifest Trains	Passenger
Livingston and Muir			
Ascending	40	40	40
Descending	25	25	36
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	---	---
Bozeman and Logan	50	55	75
Logan and MP 191	50	55	60
MP 191 and Helena	50	55	65

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

2. **Bridge and Engine Restrictions—**
At East Helena,
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.

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. **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 engines:
Eastward—West End to Livingston Yard.
Westward—Livingston to Helena and Butte.

Eastward freight or mixed trains, handled by engine having no dynamic brake or when engine 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 engine having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the engine 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 engines ascending the grade, use no retaining valves when dynamic brake is operative on all units of both engines.

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 engine having no dynamic brake or when engine 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 engine having dynamic brake operating effectively on all units and tonnage rating of train does not exceed the specified tonnage for the engine 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 engine 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 engine 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.

5. **CTC RULES APPLICABLE TO FIRST SUBDIVISION**

Employes must not enter Bozeman 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.

Positive block must be maintained between West End and Muir. Between east switch at West End and west switch at Muir, protection as prescribed by Rule 99 is not required.

At West End, holding signal Number 133A located approximately 2000 feet east of west switch of siding.

At Muir, holding signal Number 141A located approximately 2000 feet west of east switch of siding. Item 15 mountain grade operation, all subdivisions paragraph 2, is modified to allow a descending freight or mixed train holding main track at the meeting point to pass the upper switch of the siding at west end and Muir and proceed to the holding signals, being governed by the signal aspects at these holding signals.

At Livingston: Trains or yard engines desiring to occupy main track on time of delayed eastward first class trains must receive verbal authority from Train Dispatcher.

Second Subdivision trains arriving Logan will not require clearance and will be governed by CTC signal indication. Ninth Subdivision trains arriving Manhattan will not require clearance.

At Livingston: Westward starting indicator installed west MP 115 just east of underpass, opposite signal 1154. This starting indicator effects trains moving from the yard tracks west and does not effect trains yarded on old main track or the main track.

When a train is ready to leave one of the yard tracks a member of the crew must push the button on the starting indicator, and if the Dispatcher wishes train to leave he will authorize their movement by giving them a steady lunar light. If flashing lunar light is displayed after the crew member has pushed the button on the starting indicator a member of the crew must call the Dispatcher on CTC phone located at the indicator for further instructions. The button on the starting indicator must not be pushed until train is complete and ready to go.

HAND OPERATED SWITCHES EQUIPPED WITH ELECTRIC SWITCH LOCKS:

Muir	East end short north siding
	West end short north siding
West End	East end short north siding
	West end short north siding
Chestnut	Spur track
Bozeman	East end yard lead
	East end cross-over
	West end yard
	Old coal dock
	Carter Oil Spur (West of Bozeman)
Belgrade	Mill track
Manhattan	East end wye Anceney Branch
	East end house track
	West end wye Anceney Branch
Logan	East end depot runaround track
	West end depot runaround track
Trident	East end siding
	West end siding
Stanley	Spur track
Toston	East house track
Holker	Spur track (is old east switch)
Townsend	East house track
	East north siding (East switch)
	East north siding (West switch)
Penwell	Spur track
East Helena	East end short south siding
	East end short north siding
	West end short south siding
	East end yard
	West end short north siding
	West end yard

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

7. **Register Stations**—
Livingston, Helena, Bozeman Trains originating and terminating.

8. Register and Clearance Exceptions—At Logan, Eastward trains from second subdivision will not require a clearance. First Subdivision trains will not register.

SECOND SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted Freight	603 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. Butte, Fourth Subdivision instructions govern.

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

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

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

6. **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 engine having no dynamic brake or when engine 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 engine having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the engine 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 engines ascending the grade, use no retaining valves when dynamic brake operative on all units of both engines.

In the event of failure of the dynamic brake on any unit of diesel-electric engine 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 engine 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 engine having no dynamic brake or when engine 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.

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

8. **Yard Limits—**

Tracks between yard limit signs east of M. U. Transfer and west of Butte operated as one yard.

9. **Register Stations—**

Logan, Butte.
Whitehall for second class and inferior trains.

10. **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
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—**
At Avon, engines must not pass, and trainmen must not ride platform side of cars passing 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.

Missoula, 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 crossover at MP one west end of yard.

4. **At Garrison—**
Westward trains arriving will be governed by the indication of the interlocking signal at double track switch.
Freight trains need not stop to inspect train unless condition of train indicates inspection necessary.

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, 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. **CTC Rules Applicable to Third Subdivision**
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.

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.

Positive block must be maintained between Blossburg and Skyline.

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

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.

Hand operated switches equipped with electric switch locks:
Helena—East interchange track switch
West interchange track switch
East end crossover MP 1
West end crossover MP 1
Rimini spur track
Fair Ground spur track
Fort Harrison spur track
Austin spur track
Blossburg—East end short north siding
West end short north siding
Calcium spur track
Avon—East house track switch
West house track switch
Phosphate—Switch to Eighteenth Subdivision spur track.

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

See all subdivisions Item 15.

On eastward freight and mixed trains, the feed valve on engine 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 engine, having no dynamic brake or when engine 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 engine having dynamic brake operating effectively all units and tonnage rating of train does not exceed the specified tonnage for the engine 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 engines ascending the grade, use no retainers when dynamic brake is operative on all units of both engines.

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 engine 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 engine 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.

At Missoula—Terminal air brake test to be made in accordance with air brake rules and special instructions will satisfy the requirements of Rule 43 of air brake rules Form 610. Carmen will know that 90 pounds brake pipe pressure is obtained before making terminal test and will make a complete record of the test on prescribed Form 3797, record of terminal test.

In event terminal test is required at points other than Missoula, Conductor will make a complete record of the test on prescribed Form 3797.

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

At Helena, 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 engine tonnage over the entire district and two four unit diesel engines are double headed. The leading engine 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.

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

10. **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	50	55	75
except Dempsey—Interlocking			
Eastward	45	45	60
Westward	50	50	60
Dempsey and Garrison	50	55	65

	All trains.
At Butte—Within city limits,	
On main track	20 MPH.
On other tracks	15 MPH.
Westward trains approaching and over Kaw Ave.	10 MPH.
Approach passenger station at	Restricted Speed.

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

Hand operated switches equipped with electric switch locks:
Silver Bow—East end siding
West end siding

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

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

5. **Clearance and Register exceptions.**

At Butte—Union Pacific trains must secure both Northern Pacific and Union Pacific clearance before leaving.

B. A. & P. trains may register by Form 608.

At Silver Bow—Union Pacific trains may register by Form 608.

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. 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.

Hand operated switches equipped with electric switch locks:
Schilling—East end siding
West end siding

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. **Register Stations**—Missoula and Paradise.
Clearance exceptions
At DeSmet—Eastward trains from 6th Subdivision will not require a clearance if train order signal indicates proceed.

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 Evaro			
Descending	20	....	30
Ascending	30	30	30
Evaro and MP 19 (east of Arlee)			
Descending	20	20	35
Ascending	30	....	35

2. **Bridge and Engine Restrictions—**
Bridge 55, Flathead River—
Trains handling wrecking cranes 45, 46, 47 and 48.... 20 MPH.

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 engine having no dynamic brake or when engine 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 engine having dynamic brake in effective operation on all units, and tonnage rating of drain does not exceed the specified tonnage for the engine 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 engines ascending the grade, use no retaining valves, when dynamic brake is operative on all units of both engines.
In the event of failure of the dynamic brake on any unit of diesel-electric engine 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 engine 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.
At Missoula—Terminal air brake test to be made in accordance with air brake rules and special instructions will satisfy the requirements of Rule 43 of air brake rules Form 610. Carmen will know that 90 pounds brake pipe pressure is obtained before making terminal test and will make a complete record of the test on prescribed Form 3797, (record of terminal test.)
In event terminal test is required at points other than Missoula, Conductor will make a complete record of the test on prescribed Form 3797.

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	20 MPH.
At Gardiner, on circle	10 MPH.

2. **Bridge Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons except over Bridge 53.1. Maximum capacity 5,000 gallons over Bridge 53.1 ..... 10 MPH.

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 Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons ..... 10 MPH.

3. **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.

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

TENTH SUBDIVISION.
(RED BLUFF BRANCH)

1. **Speed Restrictions—** **Maximum Speeds Permitted**
Zone—Between
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.
Bridge 14 between Harrison and Norris..... 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.
Weed destroyer tenders—Maximum capacity 12,000 gallons ..... 10 MPH.

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 engine having no dynamic brake or when engine 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 engine, having dynamic brake in effective operation on all units and tonnage rating of train does not exceed the specified tonnage for the engine 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—** **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—**
Weed destroyer tenders—Maximum capacity 12,000 gallons ..... 10 MPH.
Bridge 9, Jefferson River:
Cars over 169,000 pounds and under 214,000 pounds, must be separated from each other and from engine. 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—** **Maximum Speeds Permitted**
Zone—Between
Drummond and Philipsburg ..... 25 MPH.
except, Drummond—Interlocking ..... 20 MPH.

2. **Bridge Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons ..... 10 MPH.

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

4. **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 ..... 10 MPH.

2. **Bridge and Engine Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons ..... 10 MPH.
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 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 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 Restrictions—**

Weed destroyer tenders—Maximum capacity 12,000 gallons .....10 MPH.

FIFTEENTH SUBDIVISION.
(COEUR D'ALENE BRANCH)

1. **Speed Restrictions—**

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

2. **Bridge and Engine Restrictions—**

Weed destroyer tenders—Maximum capacity 12,000 gallons .....10 MPH.

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—

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 and cars 30 ft. or more long with total weight exceeding 169,000 pounds must be separated from engine 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 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 percent grade at Sohon and Dorsey will be kept set and locked for main track. When doubling trains to Lookout, switches will be opened behind rear portion of train.

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. Lookout. Wallace.

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 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 engine 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. **Bridge Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons .....10 MPH.

3. Trains will not require train order or clearance, and will be governed by Rule 93.

4. **Mountain Grade Operations** between Bunn and Wallace.
See all subdivisions Item 15.

Ninety pounds brake pipe pressure must be maintained on all freight or mixed trains 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 engine 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.

5. **Register Station**—Wallace.

EIGHTEENTH SUBDIVISION.

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

2. **Bridge Restrictions—**
Weed destroyer tenders—Maximum capacity 12,000 gallons .....10 MPH.

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 low end of cut to control slack.

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

   At MP 4—At loading dock close clearance exists. Trainmen must not ride side of cars passing 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	18'4"	18'3"	18'3"	18'2"	18'0"	17'11"	17'10"	17'10"	17'10"	18'4"	12'0"	Tunnel No. 3 at M. P. 57½
3rd 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	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	12'0"	B. A. & P. Overhead
5th Subdivision.	M. L., Missoula to Paradise	20'6"	20'5"	20'3"	20'0"	19'9"	19'5"	19'0"	18'10"	18'7"	20'6"	12'0"	Tunnel No. 8 near Quinns
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 Anceney	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"	Wire Crossing—1041 feet west of M. P. 6
12th Subdivision	Drummond to Philipsburg	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	12'0"	Bridge No. 4
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"	
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"	Tunnel No. 1—1 mile west of Borax
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"	Bldg. at Gem
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"	Wire Crossing 2734 feet west of M. P. 0
17th Subdivision	Wallace to Bunn	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	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 — Height Above Top of Rail										Governing Structure
		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.....	17'9"	17'6"	17'4"	17'2"	17'0"	15'7"	15'5"	15'2"	18'4"	12'0"	Tun. No. 3 at M. P. 57½.
3rd Subdivision..	M. L., Helena to Garrison.....	17'4"	17'1"	16'10"	16'6"	16'3"	15'10"	15'4"	13'3"	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.....	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	19'3"	12'0"	B. A. & P. Overhead.
5th Subdivision..	M. L., Missoula to Paradise.....	18'4"	18'0"	17'8"	17'2"	16'7"	16'1"	15'8"	15'3"	20'6"	12'0"	Tunnel No. 8 near Quinns
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.....	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	19'11"	12'0"	Wire Crossing 1041 feet west of M. P. 6
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.....	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	19'4"	12'0"	Wire Crossing 2734 feet west of M. P. 0

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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.

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.....	1.0	745	890	1500	985	1310	1640	1900

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TONNAGE RATINGS.

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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
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
Paradise - Dixon	0.4	1530	1820	3310	2020	2630	3420	3900
Dixon - Arlee	1.0	745	890	1500	985	1310	1640	1900
Arlee - Evaro	2.2	350	420	750	460	600	750	850
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

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
DeSmet - Evaro	2.2	350	420	750	460	600	750	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								

W. W. WALTERS, Asst. Supt.

R. D. THOMPSON, Trainmaster.

J. R. ULYATT, Trainmaster,

J. R. GAMMILL, Trainmaster.

W. J. EYER, Trainmaster.

H. F. CAIN, Chief Dispatcher.