NORTHERN PACIFIC RAILWAY COMPANY

Rocky Mountain Division

Special Instructions No. 1

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

Tuesday, December 1, 1959

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.

D. H. KING,
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.
"B", "BB", "BBB", "BL" and "F" Manifest trains	55 MPH.
Other freight and mixed trains	50 MPH.

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

All trains and engines, except as otherwise specified:

Through crossovers, turnouts and gantlets, except where fixed signals provide otherwise	15 MPH.
Handling wrecking cranes, pile drivers, locomotive cranes and similar equipment	30 MPH.
Handling 4-wheel scale test cars and scale test car 254 — Main Line	35 MPH.
Handling 4-wheel scale test cars and scale test car 254 — Branch Lines	25 MPH.
Handling air dump cars 89000 to 89059 series	35 MPH.
Picking up train orders from operators	30 MPH.
Handling dead diesel-electric engines other than NP and Tenant Lines	35 MPH.
Handling loaded ore cars	40 MPH.
DF trains handling logs	35 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, except No. 100	60 MPH.	60 MPH.
200 and 300 series, except Nos. 244 and 245	65 MPH.	65 MPH.
Nos. 244 and 245	75 MPH.	65 MPH.
400, 600 and 700 series	45 MPH.	45 MPH.
500, 501 and 552-569, incl.	65 MPH.	65 MPH.
No. 525	60 MPH.	60 MPH.
No. 550-551	75 MPH.	65 MPH.
Nos. 800-803	60 MPH.	60 MPH.
850-860 series	65 MPH.	65 MPH.
900-911, 6000 and 7000 series	65 MPH.	65 MPH.
5400 series	55 MPH.	55 MPH.
6500, 6600 and 6700 series	75 MPH.	65 MPH.
Diesel-electric motor cars in service or being towed:		
Car B-13	55 MPH.	
Cars B-6, B-11, B-15, B-16 and B-18 thru B-22 incl.	65 MPH.	
Cars B-30, B-40 and B-41	75 MPH.	

Diesel-Electric Engines Handled Dead in Train—Diesel-electric engines or units may be handled dead in trains. The speed of such trains must not exceed the authorized operating speed specified for such engines or units.

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

All diesel-electric engines or units handled dead in freight train must be placed on head end of train within ten cars of road engine handling train, this to insure that brakes will release properly.

When handling diesel-electric units dead in train, bridge, speed and other restrictions must be observed, same as when in operating condition.

Diesel-Electric Engines Mixed Consist, Passenger and Freight—Multiple unit diesel-electric engines having consist of freight and passenger units: The passenger units must be placed in trailing position and speed restrictions for freight units observed, this to prevent damage to traction motors and reduce the danger of sliding wheels on freight units.

If the units of a consist are of different gear ratio, the engine must not be operated at speeds exceeding that of the unit having the lowest maximum permissible speed. Also, the overload short time rating of any unit in the consist must not be exceeded.

When two, Four-Unit Diesel-electric 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.

2. Heavy Cars—Cars heavier than the following not permitted without authority of Superintendent:

30 ft. or less in length	210,000 Lbs.
Over 30 ft. in length:	
First and Fifth Subdivisions	400,000 "
Second, Third, Fourth and Sixth Subdivisions	300,000 "
All other subdivisions	210,000 "

In weed spraying trains, when tank cars having a capacity of over 13,000 gallons are used, they should be separated from each other by a car of lesser capacity.

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

4. Rule 607. Emergency signals are not used at interlockings operated by the Northern Pacific Railway.

5. 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.

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

Four-wheel scale test cars must be handled only in local freight trains. Exception:—If there is no local service available, these cars may be handled in dead freights which must be governed by speed restrictions for the handling of four-wheel scale test cars shown under Item 1. All scale test cars must be placed immediately ahead of caboose.

Air dump cars, series 89000-89059, will be handled only in work trains and local trains when available. If local trains not available, cars may be handled on the rear of other trains at a speed not to exceed 35 MPH.

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 these 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 miles per hour.

(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.

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

7. 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 cases 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.

8. Spring Switches—
Instructions for operation of spring switches are posted at or near the spring switch and must be complied with.

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.

Normal indication of siding signal is STOP. If siding signal does not clear on approach of train, movement must be governed by instructions posted at the switch.

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

10. 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.

11. 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.

12. 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.

13. 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:

Five F-9 diesel-electric units or four F-9 units and one GP-9 unit with Type "E" alignment control couplers—6500 tons.

Four FT units and one GP-9 unit in the middle of the FT consist with Type "E" alignment control couplers—6250 tons.

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.

14. Limits of Centralized Traffic Control (CTC) are identified by roadway signs indicating the beginning of and the end of CTC territory.

FIRST SUBDIVISION.

(Main Line)

1. **Speed Restrictions—**

Zone—Between	Maximum Speeds Permitted F-B-BB-BBB-BL. Freight	Manifest Trains	Passenger
Livingston and Muir			
Ascending	40 MPH.	40 MPH.	40 MPH.
Descending	25 MPH.	25 MPH.	36 MPH.
Muir and West End	30 MPH.	30 MPH.	30 MPH.
West End and 1400 ft. west of MP 135 (3 miles west of Chestnut)			
Ascending	30 MPH.	30 MPH.	30 MPH.
Descending	25 MPH.	25 MPH.	36 MPH.
Bozeman and Logan	50 MPH.	55 MPH.	75 MPH.
Logan and MP 191	50 MPH.	55 MPH.	60 MPH.
MP 191 and Helena	50 MPH.	55 MPH.	65 MPH.

2. **Bridge and Engine Restrictions—**

At Livingston—On track No. 18 impaired clearances at new diesel washing facilities.

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.

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 13.

Ninety pounds brake pipe pressure must be maintained on freight or mixed trains:

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.

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 signals are located approximately 2000 feet east of west switch of siding.

At Muir, holding signals are located approximately 2000 feet west of east switch of siding. Item 13 mountain grade operation, all subdivisions paragraph 2, is modified to allow a descending freight or mixed train 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.

Eastward extra trains may use main track on the time of delayed westward first class trains upon authority of yardmaster. Yardmaster must have train order authority from the Yellowstone division train dispatcher before granting the use of main track. Stop may be made at speaker located on pole 50 feet east of CTC bungalow near end of CTC limits to receive this authority if no radio communication.

Westward starting indicator installed west of MP 115 just east of underpass, opposite signal 1154. This starting indicator affects trains moving from the yard tracks west and does not affect 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.

At Logan: Second Subdivision trains arriving will be governed by CTC signal indication.

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
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)
	West 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.
Muir, West End and Bozeman—Helper engines originating will not require clearance.
At Manhattan—Trains arriving from the Ninth Subdivision will not require clearance.

SECOND SUBDIVISION.
(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted F-B-BB-BBB-BL. Freight	Manifest Trains	Passenger
Logan and MP 16 (3 miles east of Sappington)	50 MPH.	55 MPH.	75 MPH.
At Sappington Interlocking	45 MPH.	45 MPH.	55 MPH.
At Whitehall, over street crossing	30 MPH.	30 MPH.	30 MPH.
MP 16 and MP 43 (two miles east of Pipestone)	50 MPH.	55 MPH.	75 MPH.
MP 43 and Spire Rock—			
Ascending	30 MPH.	30 MPH.	30 MPH.
Descending	20 MPH.	.....	30 MPH.
Spire Rock and Homestake—			
Ascending	30 MPH.	30 MPH.	30 MPH.
Descending	20 MPH.	.....	25 MPH.
Homestake and MP 68 (east of MU Transfer)—			
Ascending	30 MPH.	.....	30 MPH.
Descending	20 MPH.	20 MPH.	30 MPH.
MP 68 and Butte	35 MPH.	35 MPH.	60 MPH.
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 13.

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 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 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 F-B-BB-BBB-BL. Freight	Manifest Trains	Passenger
Helena and east switch Birdseye	50 MPH.	55 MPH.	60 MPH.
except G. N. Crossing Interlocking	50 MPH.	50 MPH.	50 MPH.
Birdseye (east switch) and Austin			
Ascending	30 MPH.	30 MPH.	35 MPH.
Descending	20 MPH.	.....	35 MPH.
Austin and Blossburg			
Ascending	30 MPH.	30 MPH.	30 MPH.
Descending	20 MPH.	.....	25 MPH.
Blossburg and MP 51 (Garrison)	50 MPH.	55 MPH.	70 MPH.

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 1 west end of yard.

Spring switch without facing point lock at east end double track just west of Robert Street crossing, normal position for westward main track.

Spring switch without facing point lock at west end of yard lead connection with westward main track, normal position for yard lead.

Trains or yard engines desiring to occupy main track on the time of delayed first class trains must receive verbal authority from the train dispatcher.

Trains arriving Helena on the time of or delayed first class trains are authorized to proceed on the main track inside yard limits when the following signal indications are displayed on the control signals at the end of CTC limits:

Westward trains— 601 B figure 1, or 601 C figure 1

Eastward trains — 601 F figure 1 for movements through crossover and down westward track.
601 B figure 1, eastward main track.
601 F figure 4, westward track from Tobin for through movement on this track.

Westward starting signals are located at Robert Street and at yard office. Trainmen will press button to indicate the train is ready to move, and if the dispatcher wishes train to leave, he will authorize their movement by giving them a steady lunar white light. If flashing lunar white 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.

4. **At Garrison—**

West switch of passenger siding is equipped with spring switch and facing point lock and is also provided with an electric lock on the hand throw lever.

5. **At Clinton—**

Westward trains occupying either the main track or siding, when standing, will stop east of the crossing a sufficient distance to afford motorists good vision of either track.

6. **At Missoula—**

Trains or yard engines may occupy main track on the time of westward first class trains upon receipt of verbal authority from the yardmaster. Yardmaster must receive authority from train dispatcher.

Westward extra trains may enter yard limits on main track on the time of first class trains when westward control signal at east end Missoula provides for movement. Unless otherwise directed by yardmaster these trains will proceed to the east lead of the west yard and clear the main track as promptly as practicable.

Eastward extra trains may use the main track on the time of delayed first class trains upon the authority of the yardmaster. Yardmaster must receive authority from the dispatcher.

7. **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
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
Garrison—East and west end of house track
Phosphate—East and west end of Non-Controlled siding
Gold Creek—Spur track
Drummond—East and west end of house track
Bradman—Spur track
Bonita—Spur track
McQuarrie—East and west end of Non-Controlled siding
Clinton—Spur track
Bonner—East and West switch of storage track.

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

See all subdivisions Item 13.

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 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 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 63 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 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.

10. **Register Stations**—
Helena Yard,
Garrison for trains originating or terminating only,
Missoula.

11. **Clearance Exceptions**—
At Blossburg—Helper engines originating will not require clearance.

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

FOURTH SUBDIVISION.

(MAIN LINE)

1. **Speed Restrictions**—

Zone—Between	Maximum Speeds Permitted F-B-BB-BBB-BL. Freight	Manifest Trains	Passenger
Butte and Hackney	50 MPH.	55 MPH.	60 MPH.
Hackney and Dempsey	50 MPH.	55 MPH.	75 MPH.
except Dempsey—Interlocking Eastward	45 MPH.	45 MPH.	60 MPH.
Westward	50 MPH.	50 MPH.	60 MPH.
Dempsey and Garrison	50 MPH.	55 MPH.	65 MPH.
At Butte—Within city limits,			All trains.
On main track			20 MPH.
On other tracks			15 MPH.
All 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 Durant**—Hand operated switch at East end of crossover BA&P connection equipped with electric lock.

4. **At Garrison**—
Third Subdivision instructions govern.

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

6. **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 F-B-BB-BBB-BL. Freight	Manifest Trains	Passenger
Missoula and DeSmet both tracks	50 MPH.	55 MPH.	70 MPH.
Against the current of traffic	49 MPH.	49 MPH.	59 MPH.
DeSmet and Paradise	50 MPH.	55 MPH.	60 MPH.
except, Huson—Interlocking	45 MPH.	45 MPH.	50 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.

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	Freight	Maximum Speeds Permitted F-B-BB-BBB-BL. Manifest Trains	Passenger
DeSmet and one mile west	50 MPH.	55 MPH.	75 MPH.
One mile west of DeSmet and Evaro			
Descending	20 MPH.	.....	30 MPH.
Ascending	30 MPH.	30 MPH.	30 MPH.
Evaro and MP 19 (east of Arlee)			
Descending	20 MPH.	20 MPH.	35 MPH.
Ascending	30 MPH.	.....	35 MPH.
MP 19 (east of Arlee) and MP 34 (three miles west of Ravalli)	50 MPH.	55 MPH.	75 MPH.
MP 34 and MP 49 (2 miles east) (of Perma)	50 MPH.	55 MPH.	65 MPH.
MP 49 and Paradise	50 MPH.	55 MPH.	75 MPH.

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**—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 13.

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 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.

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 63 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.

At Dixon—Clearance not required.

EIGHTH SUBDIVISION.
(PARK BRANCH)

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

Zone—Between	
Livingston and Gardiner	30 MPH.
except trains handling gravel and rock	20 MPH.
At Gardiner, on circle	10 MPH.

2. **Bridge Restrictions—**
Wrecking cranes 45 to 48 inc. over bridges ..... 15 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	25 MPH.

2. **Bridge Restrictions—**
Wrecking cranes 45 to 48 inc. over bridges ..... 15 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 (Not exceeding any one mile in four (4) minutes)	15 MPH.
Ascending	25 MPH.
Two miles east of Harrison and Norris	25 MPH.

2. **Bridge and Engine Restrictions—**
Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.
except over Bridge 2 Antelope Creek ..... 10 MPH.
Bridge 14 between Harrison and Norris..... 10 MPH.
Heavy Car Restrictions, Bridge 2:
Trains handling cars with total weight exceeding 169,000 pounds in groups or coupled to engine ..... 10 MPH.
If such cars are separated from each other and from engine with one car 40 ft. long with total weight under 169,000 pounds speed restriction will not apply.

3. **Mountain grade between two miles west of Sappington to two miles East of Harrison.**

See all subdivisions Item 13.

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.
MP 2 to Alder: Diesel engine units in excess of 248,000 lbs.	20 MPH.

2. **Bridge and Engine Restrictions—**

Between Whitehall and Alder: Trains must be handled by single unit engines only.

Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.

Heavy car restriction, Bridge 9, Jefferson River—Cars over 169,000 pounds must be separated from each other and from engine.

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—**

Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.

3. **At Drummond**—Trains from Twelfth Subdivision must receive permission from dispatcher before entering siding.

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—**

Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.
Heavy car restrictions Bridges 0, 4, 11.1, 23.2 and 51—Cars with total weight exceeding 169,000 pounds must be separated from engine with one car 40 ft. long with total weight under 169,000 pounds. Cars less than 30 ft. long with total weight exceeding 169,000 pounds also must be separated from each other with one car 40 ft. long with total weight under 169,000.

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—** Maximum Speeds Permitted

Zone—Between	Freight	Passenger
Dixon and Polson	25 MPH.	30 MPH.

2. **Bridge Restrictions—**

Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.

3. **Clearance Exceptions—**

At Dixon—Clearance not required.

FIFTEENTH SUBDIVISION.

(COEUR D'ALENE BRANCH)

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

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

2. **Bridge and Engine Restrictions—**

Wrecking cranes 45 to 48 inc. over bridges ..... 15 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 to 44 inc. and pile drivers 25 to 30 inc. ..... 15 MPH.

Heavy car restrictions—Cars with total weight exceeding 169,000 pounds must be separated from engine with car 40 ft. long with total weight under 169,000 pounds. Cars less than 30 ft.

long with total weight exceeding 169,000 pounds also must be separated from each other with one car 40 ft. long with total weight under 169,000.

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 13.

   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**—
   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 13.

   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 and Engine Restrictions**—
   Wrecking cranes 45 to 48 inc. over bridges ..... 15 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 13.

   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**—
   Wrecking cranes 45 to 48 inc. over bridges ..... 15 MPH.

3. **Mountain Grade Operation:**
   Mountain grade 2400 feet west of the junction switch to end of track.
   See all subdivisions Item 13.

   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**—Trains from Eighteenth Subdivision must receive permission from dispatcher before entering siding.

5. **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.

6. **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.

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

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

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 Helena...	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
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"	
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"	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"	19'11"	12'0"	Wire Crossing—1041 feet west of M. P. 6
13th Subdivision	Missoula to Darby.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	Bridge No. 4
14th Subdivision	Dixon to Polson.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
15th Subdivision	St. Regis to Wallace.....	20'6"	20'6"	20'6"	20'6"	20'5"	20'2"	19'9"	19'6"	19'3"	20'6"	12'0"	Tunnel No. 1—1 mile west of Borax
16th Subdivision	Wallace to Burke.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
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"	Wire Crossing 2734 feet west of M. P. 0

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

MAXIMUM CLEARANCES

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

		LIMIT OF LOAD—MEASUREMENT										Governing Structure
		Height Above Top of Rail										
		8'6" Wide	9'0" Wide	9'6" Wide	10'0" Wide	10'6" Wide	11'0" Wide	11'6" Wide	12'0" Wide	Max. Height	Max. Width	
1st Subdivision...	M. L., Livingston to Helena.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
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"	13'8"	19'2"	12'0"	Iron Ridge & Mullan Tunnels
3rd Subdivision..	M. L., Garrison to Missoula.....	17'10"	17'5"	17'1"	16'8"	16'1"	15'5"	14'9"	13'9"	20'6"	12'0"	Garrison and Bonita Tunnels.
4th Subdivision..	M. L., Butte to Garrison.....	19'3"	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.....	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	20'6"	12'0"	
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

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	99-106 400-427 700-724 750 800-803	107-177	5400-5410	550-551 6500-6513 6550 6600-6601	244-245 6000-6006 6700 Series	500-501-525 552-569 850-863 900 Series 6007-6020 6050	200 Series 300 Series 7000 Series Ex. 244-245
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

TONNAGE RATINGS.

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EASTWARD	Ruling Grade	99-106 400-427 700-724 750 800-803	107-177	5400-5410	550-551 6500-6513 6550 6600-6601	244 245 6000-6006 6700 Series	500-501-525 552-569 850-863 900 Series 6007-6020 6050	200 Series 300 Series 7000 Series Ex. 244-245
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.)

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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								

L. L. WOLLSCHLAEGER,
Asst. Supt.

H. J. WALTERS,
Trainmaster.

R. D. THOMPSON,
Trainmaster.

W. J. EYER,
Trainmaster.

J. R. ULYATT,
Trainmaster,

J. R. GAMMILL,
Chief Dispatcher.