

# **GREAT NORTHERN RAILWAY COMPANY**

## **BUTTE DIVISION**

### **Special Instructions No. 3**

**EFFECTIVE 12:01 A. M.  
MOUNTAIN TIME**

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**Sunday, February 23, 1947**

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

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**H. M. SHAPLEIGH, Superintendent  
I. E. MANION, General Manager  
J. B. SMITH, General Superintendent of Transportation**

## FIRST SUBDIVISION

(Main Line)

### 1. MAXIMUM SPEED FOR TRAINS.

For Streamliners see Item 1, Page 11.

Between	Other Passenger	Freight
Williston and Glasgow .....	65 MPH	50 MPH
Where zone speed for Streamliner is lower than the maximum permissible speed for other trains, zone speed will govern.		

### 2. SPEED RESTRICTIONS.

Snowden, eastward trains entering double track..... 35 MPH  
 Wolf Point, No. 27 will reduce speed to 25 MPH passing depot to avoid damage to mail being thrown off.  
 Nashua and Poplar, No. 28 will reduce speed to 25 MPH passing depot to avoid damage to mail being thrown off.

### 3. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Wolf Point, heavier than O-3 engines not permitted on industry track between underpass and depot. If necessary to set out or pick up from this track hold on to enough cars as reachers.

### 4. TRAIN REGISTER EXCEPTIONS.

Glasgow, Nos. 1 and 2 will register by ticket.

### 5. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:  
 Westward—3½ miles west of Williston.  
 Eastward—One mile east of east switch Chelsea.

### 6. CROSSOVERS ON DOUBLE TRACK.

Facing point,	Trailing point,
Snowden.	Fort Buford. Trenton.

### 7. SPRING SWITCHES WITH FACING POINT LOCK.

Sprole, east and west siding switch.  
 Poplar, east and west siding switch.  
 Wolf Point, west switch eastward siding.  
 Glasgow, west switch eastward siding.  
 Normal position is for main track.

### 8. SWITCH INDICATORS.

Snowden, indicator is located near east wye switch.  
 Wiota, indicator is located near east siding switch.  
 Push buttons and instructions for their operation are in the iron box locked with a switch lock.  
 The member of the crew who is to line switches must first operate push button "R" for route desired and hold a few seconds. Both the trainman and the engineer must observe and be governed by the indicator before lining switch or fouling main track. If the indicator displays a yellow light when push button "R" is operated, switch may be lined and movement made immediately without waiting as prescribed by Rule 513. The yellow light will be extinguished by the lining of main track switch.  
 If a yellow light is not displayed in the indicator when push button "R" is operated, every precaution, consistent with train rights and operating rules, must be taken before lining switch or fouling main track. If push button "R" is operated and the intended movement is not made or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push button "N" must never be operated after push button "R" if the intended movement is to be made.  
 Push button boxes must be kept closed and locked except as required to be open for immediate use.

## SECOND SUBDIVISION

(Main Line)

### 1. MAXIMUM SPEED FOR TRAINS.

For Streamliners see Item 1, Page 11.

Between	Other Passenger	Freight
Glasgow and Havre .....	65 MPH	50 MPH
Where zone speed for Streamliner is lower than the maximum permissible speed for other trains, zone speed will govern.		

### 2. SPEED RESTRICTIONS.

Havre, passenger trains over lead and crossover switches westward main track opposite freight house platform..... 8 MPH  
 Zurich, Dodson and Hinsdale, No. 28 will reduce speed to 25 MPH passing depot to avoid damage to mail being thrown off.

### 3. TRAIN REGISTER EXCEPTIONS.

Glasgow, Nos. 1 and 2 will register by ticket.

### 4. RESTRICTED CLEARANCES.

Havre, Montana Central tracks at car department service station laid close centers and will not clear man between tracks.  
 Saco, Malta, Harlem, Chinook, platform on house track will not clear dozer.

### 5. Havre, stock yard lead switch near scale track is connected with block signal system and must be left lined for stock yard lead when not in use.

### 6. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:  
 Westward—One mile west of west switch Paisley.  
 Eastward—One mile east of east switch Adams.

### 7. CROSSOVERS ON DOUBLE TRACK.

Facing point,	Trailing point,
Lohman, 1 mile west of end of double track.	Toledo, just west of MP 424.

### 8. SPRING SWITCHES WITH FACING POINT LOCK.

Glasgow, west switch eastward siding.  
 Havre, west lead switch to westward main track.  
 Malta, west siding switch.  
 Normal position is for main track.

### 9. AUTOMATIC INTERLOCKINGS.

Lohman ..... end of double track.

## THIRD SUBDIVISION

(Havre Line)

### 1. MAXIMUM SPEED FOR TRAINS.

For Streamliners see Item 1, Page 11.

Between	Other Passenger	Freight
Havre and Pacific Jct. ....	60 MPH	45 MPH
Pacific Jct. and Great Falls .....	55 MPH	40 MPH

Where zone speed for Streamliner is lower than the maximum permissible speed for other trains, zone speed will govern.

### 2. SPEED RESTRICTIONS.

Great Falls, all trains on curve at passenger station... 10 MPH  
Trains will run at restricted speed at points where slides or falling rock are likely to be encountered and run carefully through tunnels.

### 3. TRAIN REGISTER EXCEPTIONS.

Great Falls, Register only for first class trains, passenger extras and second class trains to and from Sixth Subdivision.

### 4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

At Pacific Jct., eastward Kalispell Division trains will not require clearance and may proceed to Havre with the current of traffic when signals indicate proceed.

### 5. RESTRICTED CLEARANCES.

Big Sandy, Stranahan, loading platforms will not clear man on side of car.  
Great Falls, passenger station platform will not clear dozer.

### 6. GREAT FALLS, normal position of switch east end Missouri River bridge No. 119.4, is for Fifth Subdivision.

### 7. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:  
Westward—One mile west of west switch Assiniboine.  
Eastward—One mile east of east switch Sheffels.

### 8. EMERGENCY TELEPHONES.

Big Sandy Pit switch .....	Booth
2600 feet west MP 71 .....	Watchman Cabin
265 feet west MP 74 .....	Watchman Cabin
1000 feet west MP 118 .....	Booth

### 9. SPRING SWITCHES WITH FACING POINT LOCK.

Havre, west lead switch to westward main track.  
Normal position is for main track.

### 10. SEMI-AUTOMATIC INTERLOCKINGS.

Pacific Jct. .... Junction with Kalispell Division.  
Switches operate automatically for all movements with the current of traffic and for westward Kalispell division trains when running against the current of traffic, except for westward trains destined Great Falls with the current of traffic switches are controlled from depot, Havre.

Switches must be operated by hand for other movements. When an eastward train on the Great Falls Line receives a proceed indication at home signal and is required to wait for the arrival of an eastward Kalispell division train, trainmen shall operate push button "R" located in iron box at eastward home signal which will permit route to be changed to avoid delay to eastward Kalispell division train. When push button "R" has been operated and no train movement made, route may be reset for eastward train on Great Falls Line by operation of push button "N". Push button box must be locked after using.

## FOURTH SUBDIVISION

(Butte Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Great Falls and Clancy .....	45 MPH	30 MPH
Clancy and Butte .....	40 MPH	25 MPH

### 2. SPEED RESTRICTIONS.

Bridge 120.8 Great Falls, M, O .....	20 MPH
Bridge 159.9 Midcanon, M, O .....	20 MPH
Bridge 162.1 Midcanon .....	10 MPH
Bridge 228.1 Clancy, M, O .....	20 MPH
Bridge 236.2 Corbin .....	10 MPH
MP 261½ to MP 265½ Bernice—Elk Park .....	15 MPH
Bridge 265.4 Elk Park .....	10 MPH
Bridge 283.3 Butte .....	10 MPH
Bridge 284.1 Butte .....	10 MPH
Helena, through city limits, all trains .....	15 MPH
Helena, trains backing in or out of passenger station....	10 MPH
Butte, through city limits, Passenger .....	8 MPH
Freight .....	6 MPH
Tunnel No. 1, Hardy, through tunnel, freight trains ....	10 MPH
Tunnel No. 6, between Portal and Amazon, through tunnel, Passenger .....	25 MPH
Freight .....	15 MPH

Between Home Signals of interlockings at:

Helena and Butte .....	20 MPH
Trains will run at restricted speed at points where slides or falling rock are likely to be encountered and run carefully through tunnels.	

### 3. ENGINE RESTRICTIONS.

Between Great Falls and Butte, account insufficient tunnel clearance, N, O-7, P-2 Q, R, S engines prohibited.

### 4. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Butte, Largey Spur and track leading to passenger station, O-4 engines prohibited account No. 7 turnout.

### 5. TRAIN REGISTER EXCEPTIONS.

West Side Jct., first and second class trains and passenger extras will not register.  
Helena, register only for trains originating and terminating.

### 6. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

At West Side Jct., first and second class trains and passenger extras for which this point is initial station may proceed on authority of clearance under which such trains arrive.

### 7. RESTRICTED CLEARANCES.

Helena, Main Street overhead bridge will not clear man on top of car.  
Great Falls, Helena, Butte, passenger station platform will not clear dozer.  
Great Falls, Helena, Butte, cars destined to points on Butte Line or picked up at intermediate stations, loaded with poles, pipe or other lading that has close tunnel clearance must be placed next behind engine. Train and engine men must closely observe such lading to see if in safe condition before passing through tunnels.

### 8. GREAT FALLS, normal position of switch east end Missouri River bridge 119.4 is for Fifth Subdivision.

### 9. WEST SIDE JCT., normal position of junction switch located in front of yard office is for Fourth Subdivision.

### 10. TUNNEL NO. 6 BETWEEN AMAZON AND PORTAL, when signal displays Stop-indication Rule 509(A) governs.

### 11. WOODVILLE, O-4 engines turning on wye must move very slowly and head in on west leg and back out on east leg account No. 7 turnout on tail track.

### 12. MOUNTAIN SPUR, switch is protected for westward movements by automatic block signal 281.5 located approximately 1600 feet east.

### 13. BUTTE, between bridge 284.1 and N. P. Ry. crossing, automatic block signals control westward movements.

#### 14. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:  
Westward—One mile west of west switch Riverdale.  
Eastward—One mile east of east switch Woodville.

#### 15. EMERGENCY TELEPHONES.

Gore Hill, 3700 feet east of east switch Flood.....Booth  
Hardy, 500 feet west tunnel No. 1.....Watchman Cabin  
Boulder, 3 mi. west of .....Watchman Cabin  
Butte, Tramway Mine .....Booth

#### 16. MANUAL INTERLOCKINGS.

Helena, 2.50 miles east of .....N. P. Ry. crossing  
Butte, 0.64 miles east of .....N. P. Ry. crossing  
Whistle signals for routes:  
Helena, main track .....1 long  
Butte, main track .....1 long  
N. P. Ry. transfer track .....4 short

#### 17. RAILROAD CROSSINGS PROTECTED BY GATES.

Helena, 1.77 miles east of .....N. P. Ry. Industry track  
Normal position is clear for Great Northern.

### FIFTH SUBDIVISION

(Billings Line)

#### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Great Falls and Mossmain .....	50 MPH	40 MPH

#### 2. SPEED RESTRICTIONS.

Great Falls, passenger station, all trains on curve of  
Billings line ..... 10 MPH  
All trains will run at restricted speed:  
Rimrock, through cut one-half mile east of tunnel.  
Wayne, between tunnel and MP 198, 2 miles east and at  
other points where slides or falling rock are likely to be  
encountered and run carefully through tunnels.

#### 3. TRAIN REGISTER EXCEPTIONS.

Great Falls, register only for first class trains, passenger extras  
and second class trains to and from Sixth Subdivision.  
Judith Gap, Moccasin, Gerber, register only for trains originating  
and terminating.  
Mossmain, register for trains originating and terminating at  
Billings.

#### 4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

Great Northern clearance received at Billings and Laurel will  
clear trains at Mossmain.

#### 5. RESTRICTED CLEARANCES.

Great Falls, passenger station platform will not clear dozer.  
Armington, Clay Spur loading dump will not clear man on side  
of car.

6. Great Falls, normal position of switch east end Missouri River  
bridge No. 119.4, is for Fifth Subdivision.

7. Gerber, normal position of junction switch is for Fifth Subdivi-  
sion.

8. Moccasin, normal position of junction switch is for Fifth Sub-  
division.

9. Judith Gap, short No. 1 track must be kept clear.

10. Tunnel Q-1, between Shorey and Rimrock, automatic block  
signals control movement of trains.

#### 11. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points  
as compared with Speed Table:  
Westward, Two miles west of west switch Hesper.  
Eastward, One-half mile east of east switch Fields.

#### 12. EMERGENCY TELEPHONES.

1200 feet west of MP 199 .....Watchman Cabin  
Tunnel Q-1, east end .....Watchman Cabin  
Tunnel Q-2, east end .....Watchman Cabin

#### 13. MOSSMAIN, ELECTRIC SWITCH LOCKS.

Automatic signal 12.8 located 1000 feet west of west wye switch  
controls eastward train movements on east leg of wye. Normal  
position of junction switches at Mossmain is for Northern  
Pacific main track.

The following switches and derails are equipped with electric  
switch locks:

Derail near signal 118 on east leg of wye.

Derail near signal 123 on west leg of wye.

Both switches of crossover between main tracks leading to west  
leg of wye.

West switch of crossover from yard to eastward main track near  
signal 124.

East switch of crossover east of Laurel Yard office.

Trainmen will be governed as follows in the operation of these  
electric switch locks:

Open door of Electric switch lock and if indicator shows Pro-  
ceed, move lock lever to the left which will unlock switch. If  
indicator shows Stop and no conflicting train movement is evi-  
dent, open door of release box and operate push button. This  
will start operation of clockwork release. After time interval  
of two minutes indicator will show Proceed and switch can be  
unlocked by moving lock lever to the left. Westward trains  
making crossover movement at signal 121 to the yard and east-  
ward trains making crossover movement at signal 122 to west  
leg of wye must stop within 200 feet of the signal in order to  
unlock electric lock at far end of crossover. If stop is made  
more than 200 feet from signal, electric locks cannot be oper-  
ated without use of the clockwork release.

After movement is completed, restore switches and lock levers  
to normal position locking door of electric locks and release  
boxes.

### SIXTH SUBDIVISION

(Shelby Line)

#### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
West Side Jct. and Shelby .....	50 MPH	35 MPH
Sweet Grass Line Jct. and Sweet Grass .....	35 MPH	20 MPH

#### 2. SPEED RESTRICTIONS.

Sweet Grass Line Jct. to Sweet Grass,  
steam engines backing up ..... 15 MPH  
Trains will run at restricted speed at points where slides or  
falling rock are likely to be encountered.

#### 3. TRAIN REGISTER EXCEPTIONS.

Great Falls, Register only for first class trains, passenger extras  
and second class trains to and from Sixth Subdivision.  
Emerson Jct., Vaughn, Power, Conrad, register only for trains  
originating and terminating.

#### 4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

(a) Butte Division clearance received at Shelby will clear west-  
ward trains at Sweet Grass Line Jct.  
(b) Kalispell Division clearance received at Sweet Grass will  
clear eastward trains at Sweet Grass Line Jct.

#### 5. RESTRICTED CLEARANCES.

Great Falls, passenger station platform will not clear dozer.  
Aronow Spur, 2 miles west Kevin, loading track will not clear  
man on side of car.

6. West Side Jct., normal position of junction switch located in  
front of yard office is for Fourth Subdivision.

7. Emerson Jct., normal position of junction switch is for Great  
Northern.

#### 8. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points  
as compared with Speed Table:  
Westward, One mile west of west switch Manchester.  
Eastward, One and one-quarter miles east of east switch Shelby.

## 9. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

Shelby .....end of double track  
Whistle signals for routes:

Single track to westward main track .....	2 long 1 short
Single track to eastward main track .....	1 long 1 short 1 long
Eastward main track to single track .....	1 long 1 short 1 long
Westward main track to single track .....	2 long 1 short
Eastward main track to switching lead .....	2 long 1 short
Switching lead to eastward main track .....	2 long 1 short

## 10. SWITCH INDICATORS.

Sweet Grass Line Jct., indicators are located near junction switch. Separate indicators are provided for eastward and westward main tracks. Push buttons and instructions for their operation are in the iron box locked with a switch lock. If train or engine movement is to be made from the Sweet Grass Line to westward main track, it is only necessary to operate westward track indicator. If train or engine movement is to be made from the Sweet Grass Line to the eastward main track, both indicators must be operated.

The member of the crew who is to line switches must first operate push button "R" for route desired and hold a few seconds. Both the trainman and the engineer must observe and be governed by the indicator before lining switch or fouling main track. If indicator displays a yellow light when push button "R" is operated, switches may be lined and movement made immediately without waiting as prescribed by Rule 513. The yellow light will be extinguished by the lining of main track switch. If a yellow light is not displayed in the indicator when push button "R" is operated, every precaution, consistent with train rights and operating rules, must be taken before lining switch or fouling main track.

If push button "R" is operated and the intended movement is not made, or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push button "N" must never be operated after push button "R" if the intended movement is to be made. Push button boxes must be kept closed and locked, except as required to be open for immediate use.

## SEVENTH SUBDIVISION

(Richey Line)

### 1. MAXIMUM SPEED FOR TRAINS.

	Diesel or Gas Electric	Steam
Between	Passenger	Passenger Freight
Snowden and Richey .....	30 MPH	25 MPH 25 MPH

### 2. SPEED RESTRICTIONS.

O-1, O-5 .....	20 MPH
Steam engines backing up .....	15 MPH

3. Snowden, normal position of Seventh Subdivision switch is for east leg of wye.

### 4. MANUAL INTERLOCKINGS.

Snowden, 2 miles west of .....over drawbridge 12.1  
Interlocking signals at east and west approach control train movements over bridge. Electric gates operated by tollman from cabin control vehicular traffic over bridge. Telephones located near interlocking signals are connected with tollman cabin.

## EIGHTH SUBDIVISION

(Watford City Line)

### 1. MAXIMUM SPEED FOR TRAINS.

	Diesel or Gas Electric	Steam
Between	Passenger	Passenger Freight
Fairview and Watford City .....	30 MPH	25 MPH 25 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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### 3. MANUAL INTERLOCKINGS.

Fairview, 3 miles east of .....over drawbridge 3.2  
Interlocking signals at east end of tunnel and west approach control train movements over bridge. Electric gates operated by tollman from cabin control vehicular traffic over bridge. Telephones located near interlocking signals are connected with tollman cabin.

## NINTH SUBDIVISION

(Opheim Line)

### 1. MAXIMUM SPEED FOR TRAINS.

	Passenger	Freight
Between		
Bainville and Scobey .....	30 MPH	20 MPH
Scobey and Opheim .....	20 MPH	15 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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## TENTH SUBDIVISION

(Hogeland Line)

### 1. MAXIMUM SPEED FOR TRAINS.

	Passenger	Freight
Between		
Saco and Loring .....	30 MPH	25 MPH
Loring and Chapman .....	12 MPH	12 MPH
Chapman and Hogeland .....	30 MPH	25 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	10 MPH
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3. Trains must not be double-headed over bridges on this subdivision.

## ELEVENTH SUBDIVISION

(Lewistown Line)

### 1. MAXIMUM SPEED FOR TRAINS.

	Passenger	Freight
Between		
Lewistown and Moccasin .....	35 MPH	20 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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3. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**  
At Spring Creek Jct., Trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.

### 4. RESTRICTED CLEARANCES.

Lewistown, passenger station platform will not clear dozer.

5. Moccasin, normal position of junction switch is for Fifth Subdivision.

6. Spring Creek Jct., normal position of junction switch is for CMStP&P. RR.

7. Lewistown, Great Northern trains enter CMStP&P. RR. main track at switch leading from transfer track about one-fourth mile east of Great Northern Depot.

## TWELFTH SUBDIVISION

(Giffen Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Gerber and Giffen .....	20 MPH	15 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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### 3. RESTRICTED CLEARANCES.

Giffen, trestle opposite tippie over main track and siding will not clear engine on siding. Vertical clearance 14 feet.

4. Gerber, normal position of junction switch is for Fifth Subdivision.

5. Giffen, normal position derail switch in main track near west switch is for derail.

## THIRTEENTH SUBDIVISION

(Augusta Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Vaughn and Augusta .....	25 MPH	20 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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3. Vaughn, normal position of junction switch is for Sixth Subdivision.

4. Dracut Jct., normal position of junction switch is for Great Northern.

## FOURTEENTH SUBDIVISION

(Pendroy Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Power and Pendroy .....	25 MPH	20 MPH

### 2. SPEED RESTRICTIONS.

Steam engines backing up .....	15 MPH
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### 3. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

At Eastham Jct., Choteau Jct., trains for which these points are initial stations may proceed on authority of clearance under which such trains arrive.

4. Power, normal position of junction switch is for Sixth Subdivision.

5. Eastham Jct., Choteau Jct., normal position of junction switch is for CMStP&P. RR.

## GREAT FALLS TERMINAL

### 1. SPEED RESTRICTIONS.

Great Falls, freight trains pulling into west yard..... 8 MPH

### 2. RESTRICTED CLEARANCES.

Great Falls, passenger station platform will not clear dozer. West Side Jct., when using derrick track be careful of close clearance passing blowdown box.

## ALL SUBDIVISIONS

### 1. INSTRUCTIONS GOVERNING THE OPERATION OF STREAMLINER TRAINS.

#### CLEARING OF STREAMLINERS

The time of No. 1 must be cleared by westward first-class trains not less than 5 minutes before No. 1 is due to leave the last station where time is shown, and by other westward trains not less than 10 minutes before No. 1 is due to leave the last station where time is shown.

The time of No. 1 must be cleared by eastward first-class trains, except No. 2, not less than 10 minutes at all stations, and by other eastward trains not less than 15 minutes.

The time of No. 2 must be cleared by eastward first-class trains not less than 5 minutes before No. 2 is due to leave the last station where time is shown, and by other eastward trains not less than 10 minutes before No. 2 is due to leave the last station where time is shown.

The time of No. 2 must be cleared by westward first-class trains, except No. 1, not less than 10 minutes at all stations, and by other westward trains not less than 15 minutes.

Within yard limits, inferior trains and engines must clear the main track not less than 10 minutes before No. 1 and No. 2 are due to leave the last station where time is shown.

#### MAXIMUM SPEED OF STREAMLINERS

Maximum speed of Streamliner trains, consisting of Streamline cars hauled by Diesel engines, will be designated by distinctive roadway signs in the shape of the letter "D", with silver gray Scotchlite background.

Except as directly affected by restrictions under Items 1 and 2, All Subdivisions, of Special Instructions No. 3 the "D" signs designate zone speed territories and the numerals thereon indicate the miles per hour the maximum permissible speed which will govern until the next zone is reached.

Other trains will be governed by other roadway signs.

Where zone speed for Streamliner is lower than the maximum permissible speed for other trains, zone speed will govern.

Where the movement is from a higher to a lower speed zone the zone sign is located approximately 5000 feet from the point where the lower speed becomes effective. When the movement is from a lower to a higher speed zone, the zone sign is located at the point where speed may be increased. Zone territories are listed herein for the convenience of employees.

#### MAXIMUM SPEED EXCEPTIONS:

When a Streamliner is detoured over Great Northern tracks outside of regular Streamliner territory, the Streamliner must not exceed by more than 10 MPH the maximum permissible speed for other passenger trains in the territory operated.

When Streamliner is operated against the current of traffic in double track territory the Streamliner must not exceed the maximum permissible speed for other passenger trains.

When Streamliner is handled by steam engine, or when other passenger trains are operated on Streamliner schedule, or when train consists of mixed Streamliner and conventional type equipment, the train must not exceed maximum permissible speed for other passenger trains in territory operated.

In event of failure of the electric straight air brakes, or if electric brakes cannot be used on account of cars not equipped with electric straight air brakes being handled in the train, the automatic air brakes will be used and Superintendent notified. In this event speed of train will not exceed the maximum permissible speed for other passenger trains.

## ZONE TERRITORIES AND MAXIMUM SPEED FOR STREAMLINERS.

Stations	Zone Territories		Maximum Speed MPH	
	Between Mile Posts		Westward	Eastward
Williston	123.2	136.6	60	65
	136.6	147.0	65	65
Snowden	147.0	147.1	65	40
Lakeside	147.1	153.3	65	65
	153.3	155.9	60	60
	155.9	159.4	65	65
Lanark	159.4	170.4	75	75
	170.4	170.5	70	70
Culbertson	170.5	178.5	75	75
	178.5	178.8	60	60
Blair	178.8	183.8	75	75
	183.8	186.9	60	60
Brockton	186.9	209.5	75	75
	209.5	212.0	65	65
Wolf Point	212.0	243.7	75	75
	243.7	244.3	60	60
Frazer	244.3	256.9	75	75
Wiota	256.9	261.2	55	55
Nashua	261.2	264.8	65	65
	264.8	265.9	60	60
Whately	265.9	273.0	75	75
	273.0	275.8	65	65
Glasgow	275.8	278.3	30	30
	278.3	279.6	70	70
Vandalia	279.6	296.1	75	75
	296.1	300.7	55	55
Saco	300.7	321.1	65	65
Malta	321.1	348.6	75	75
	348.6	350.3	60	60
Wagner	350.3	363.3	75	75
	363.3	367.1	70	70
	367.1	369.5	55	55
Savoy	369.5	378.9	65	65
Harlem	378.5	415.3	75	75
	415.3	416.5	65	65
Lohman	416.5	416.6	65	40
	416.6	430.0	65	60
Havre	430.0	430.4	65	60
	430.4	964.9	60	60
Pacific Jct.	964.9	965.0	40	60
	965.0	965.4	60	60

## 2. SPEED RESTRICTIONS GENERAL.

(a) For the guidance of Employees handling passenger and freight trains, except Streamliners, standard roadway signs, with silver gray Scotchlite background, are located on engineer's side of track and will indicate where speed must be reduced. The "Reduce Speed" sign set in an upward angle of 45 degrees is located approximately 3000 feet from where the lower speed becomes effective and numerals thereon indicate in miles per hour the permissible speed through the restricted area.

The "Resume Speed" sign set in a vertical position with letters "RS" thereon indicates that normal speed may be resumed.

Where these signs have two sets of figures, the numerals preceded with letter "P" apply to passenger trains, except Streamliners, and letter "F" to freight trains.

(b) When passenger trains are handled by freight engines or when freight cars, except cars equipped with passenger trucks and steel wheels, are handled in passenger trains, the train will not exceed maximum permissible speed for freight trains in the territory operated.

(c) Speed shown on Speed Limit Plates on engines must not be exceeded.

(d) F-8, G-3 and M Class engines ..... 40 MPH  
 Diesel engines 2300-2324 ..... 50 MPH  
 2325-2341 ..... 70 MPH  
 Steam engines backing up ..... 20 MPH

Steam engines in forward motion running light or with caboose only ..... 35 MPH

Diesel and Electric engines light or with caboose only... 50 MPH

Trains handling steam derricks, pile drivers, ditchers, cranes, steam shovels, dozers, etc, on Main Lines... 25 MPH  
 except on 6 degree curves or sharper, and on Branch Lines ..... 15 MPH

Trains handling ore cars or air dump cars loaded with ore or gravel and scale test car, on Main Lines... 30 MPH

except on 6 degree curves or sharper, and on Branch Lines ..... 20 MPH

Unless conditions require a further speed restriction, trains or engines moving against the current of traffic on double track through interlockings..... 15 MPH  
 Trains or engines over drawbridges ..... 15 MPH  
 Trains or engines moving on main routes actuating points of spring switches ..... 35 MPH  
 Trains or engines moving in facing point direction at spring switches without facing point lock ..... 25 MPH  
 Trains or engines through No. 20 turnouts at: ..... 35 MPH  
 End of double track at:  
 Snowden, Lohman, Pacific Jct.  
 Trains or engines through No. 15 turnouts at: ..... 25 MPH  
 Sprole, east and west siding switch.  
 Trains or engines through all other turnouts ..... 15 MPH

## 3. MOVEMENT OF ENGINES DEAD IN TRAINS.

Class O and larger engines will be placed not to exceed 15 cars behind road engine. In electrified zone only class R engine will be handled on head end, all others near rear. Class F-8 and smaller engines will be placed next ahead of caboose.

Diesel engines 2300-2341 must be handled on rear of train.

Not less than five cars will be placed between all engines. Trains handling steam engines dead in train with side rods on both sides will not exceed 40 MPH; and without side rods will not exceed 10 MPH.

Trains handling Electric, Diesel and Gas-Electric engines dead in train will not exceed following speeds:

50 and 51, 75 to 150 ..... 35 MPH  
 175 to 207, 225 to 231 ..... 60 MPH  
 250 and 251 ..... 65 MPH  
 252, 253, 258 and 259 ..... 40 MPH  
 260 and 261 ..... 65 MPH  
 262 and 263, 300 to 305, 400 to 428 ..... 40 MPH  
 500 to 512 ..... 75 MPH  
 2300 to 2324 ..... 50 MPH  
 2325 to 2341 ..... 60 MPH  
 5000 to 5008B ..... 45 MPH  
 5010 to 5019 ..... 55 MPH

4. Under Rule 2 of the Consolidated Code of Operating Rules, watches that have been examined and certified to by a designated inspector must be used by train dispatchers and yardmen.

5. The following Consolidated Code of Operating Rules and definitions, do not apply to Great Northern or Northern Pacific employees, unless they work in joint territory where such rules are in effect:

10f	251-264 incl.	Manual Block Sys-
14 t, u, v, w	300-373(A) incl.	tem
210	S-509(A)	Block Stations
217	606 a, b, c, d	Cab Signals
225	636	

6. (a) Not more than one employee will ride on leading footboard of engine, then outside of rail, preferably on engineer's side.

(b) Employees are prohibited from riding on pilot or pilot beam of engine, or on footboard between engine and cars when cars are being pulled, shoved, switched, or while coupling is being made.

Streamliner cars are equipped with diaphragms full width of the car. There is no clearance between the ends of these cars when coupled. Employees must stay entirely in the clear while these cars are being switched or coupled.

(c) When adjustment is necessary to drawbar, knuckle pin, or locking block, prior to making coupling, or when coupling fails, engine or cars must be separated not less than 10 feet and action taken to prevent movement before going between cars.

(d) Where helper engine is used behind caboose helping train, helper pilot will ride engine, and engine will be uncoupled by trainman from caboose platform.

(e) When heading out of sidings, freight trains with helper engine behind caboose, must regulate speed so that rear trainman can line switch and get on caboose instead of on tank of helper engine. This as a matter of safety because employees are prohibited from using running board of engine or passing from front of engine to caboose while train is in motion.

(f) Employees are forbidden to stand with feet resting upon car trucks, truck frame, or oil box while car is in motion.

(g) Riding on open cars containing lading which may shift is prohibited, except as required to operate hand brakes or to ride

- the lead car when cars are being pushed. Employees must make every effort to station themselves to prevent injury, and on gondola cars must not stand or place arm, leg, or other part of body between sides or end of car and lading.
- (h) Trainmen or other employees, when carrying baggage or other articles, except brake club and lantern, are prohibited from climbing up or walking over top of trains.
- (i) Employees are forbidden to ride on top or sides or stand on top of air dump cars, either loaded or empty.
- (j) Jumping from the top of one car to the top of another car on adjacent track is prohibited.
- (k) When passing around end of standing car or train, always keep a clearance of at least fifteen feet.
7. Snow or ice should not be allowed to accumulate on footboards.
  8. Employees who desire to wear colored glasses while on duty are obliged to purchase them from Company Storekeeper.
  9. Brakemen with less than one year of experience should not be used as flagman except in emergency, and then Superintendent will be notified by wire.
  10. Double heading trains is prohibited, except as authorized by Superintendent.
  11. When operating snow machines in non-block signal territory no train should be permitted to follow closer than a station apart, when that cannot be done they will be blocked not less than thirty minutes apart.
  12. After severe blizzard or dirt storm, employees on first train over road must exercise care to avoid accident caused by striking drift without first having drifts faced with hand shovels, cutting in far enough to get beyond the hard snow and giving a perpendicular wall to strike against instead of slope or wedgelike shape.
  13. When operating snow dozer, flanger will be operated by competent employee, and conductor in charge will ride in the dozer.
  14. On snow and dirt dozers every precaution must be taken to see that cage, flangers and wings clear all obstacles when in service and are properly secured when in through trains, and dozers properly turned. Hand screws must be tightened to raise flanger on dozers as high as possible before making a backup movement, and must not be released until the dozing work is actually to start. Hand screws holding the cage on dozers must be tightened or chains otherwise fastened except when dozer has air in cylinders and is attended by an employee.
  15. Loaded dump cars should not be handled on double track after dark, but if necessary to do so, close watch must be kept by trainmen and if a car dumps its load, train must be stopped and protection afforded on the opposite track.
  16. Account necessity of heating road oil to permit faster flowing, such cars will not be spotted in the immediate vicinity of any building due to fire hazard.
  17. When dining cars or other non-platform cars are placed on the rear of passenger trains, in addition to flexible gate being closed and fastened in place, rear door of car must be kept locked with coach key.
  18. Kicking or dropping cars into tracks on which there are occupied outfit cars is prohibited.
  19. Baggage cars returned deadhead when moved in storage mail service in opposite direction will be accompanied by waybill carrying notation "Deadhead mail car, no material of any character other than U. S. Mail or mail sacks to be loaded in it." Conductors will be held responsible for compliance of waybill instructions.
  20. Baggage cars on trains 1 and 2 and dormitory cars on trains 3, 4, 7, and 8, carry 100 ft. of steam hose in two 50 ft. lengths for emergency use in event of steam failure on train engine and non-steam train line engine furnished to handle train. On one of the 50 ft. lengths, one end is equipped with standard connection to fit steam dome of engine and other end equipped with standard Vapor No. 312 steam coupler which fits all steam conduits. The other 50 ft. hose has both ends equipped with Vapor No. 312 steam coupler. Fastened to base of reel is an extra combination Vapor attached to hose with steam dome connection and in case of steam line failure on a car both hoses can be used to run around such car so can be taken to first terminal, but car to be drained before proceeding.
  21. Unless otherwise provided, when passenger trains are operated against current of traffic on double track or through sidings, conductors shall notify Railway Postal Clerks, trains shall stop at points where U. S. Mail is usually picked up and conductors are responsible for delivery of mail to postal car.
  22. Conductors will report by wire all flat spots on wheels of passenger cars. Any cars having flat spots on wheels of more than two and one-half inches long must be set out.
  23. Pullman Troop Sleepers and Pullman Troop Kitchen cars have two separate sets of brake equipment cylinders. When necessary to release air brakes both of these cylinders must be bled off to avoid slid flat wheels.
  24. Conductors will see that multiple sheet metal protectors are returned to equipment box on baggage cars when extra journal bearings are used.
  25. Where journal boxes on passenger cars are equipped with spring packing retainers and it becomes necessary to repack or rebrass journal, trainmen will see packing retainer is put back in place.
  26. When necessary to set out equipment due to hot journal, be sure that all traces of fire are extinguished, and journal box properly marked.
  27. Telephones located in booths and freight houses must have switch cut out after using and must be kept secured by lock, except when being used.
  28. Conditions make it necessary to handle in trains, and in switching movements certain equipment of extreme height and width and all employees are warned to keep off top of these cars when moving and also such standing cars in electrified zone, except in case of emergency as height of cars is such that man standing on top of cars will not have proper overhead clearance at many tunnels and structures. Train, engine and yard men are cautioned to be on the lookout for such equipment and in absence of previous advice wire proper officer for instructions.
  29. The contract with the Western Fruit Express Company does not relieve the Railway Company of responsibility for proper handling of perishable freight on the road and at points where the Express Company does not maintain representatives. Conductors on trains carrying perishable freight will ascertain from waybills class of service required and light or extinguish heaters and manipulate vents in accordance with current instructions for handling perishable freight issued by the National Perishable Freight Committee, copies of which are furnished to all interested parties.
  30. **HANDLING OF EXPLOSIVES, INFLAMMABLE AND CORROSIVE LIQUIDS.**  
Cars placarded explosives moving in through freight trains must be handled not less than 16th car from road engine, one car from helper engine, and 11 cars from caboose. These cars may be handled second car from engine or caboose in local trains. These cars must not be placed in train next to loaded tank cars, flat or gondola cars loaded with pipe, lumber, poles, iron, steel, or refrigerator cars equipped with gas burning heaters, stoves, or lanterns, or next to box cars bearing inflammable or corrosive liquids. Cars containing explosives must have air and hand brakes in operative condition, and must not be cut off while in motion.  
The following will govern handling of shipments of explosives by express and handled in passenger trains:  
Carload shipments of explosives may be made by Express and handled in passenger trains when in sealed express car properly placarded.  
Less than carload shipments may be made in so-called Express peddler car with messenger in charge when such car is assigned to the handling of express and baggage exclusively, provided shipments are accompanied by an authorized representative of the United States Government while on our trains.  
Placarded loaded tank cars must not be placed in train next to cars containing lighted heaters, stoves, lanterns, or gas burning type refrigerators, or next to flat or gondola cars loaded with logs, lumber, rails, pipe, or anything that is liable to shift, and



- cars must not be handled less than the 6th car from engine or caboose when possible to do so. Loaded tank cars must not be cut off in motion until all preceding cars have cleared route, and in turn cleared, before any cars are allowed to follow. Further details governing handling of Explosives, Inflammable and Corrosive Liquids may be found in I.C.C. Regulations.
31. The use of open flame lights, burning oil lanterns, and smoking, is prohibited when handling gasoline or other flammable oils, also in and around the operating cab of gas-electric engines.
  32. Gas-electric engines must not be fueled while occupied by passengers, or coupled to cars occupied by passengers.
  33. Delivery of gasoline or other flammable oils must not be made after dark.
  34. The normal position of a spring switch with facing point lock is identified by a color light type signal displaying a lunar white light for train or engine movements in a trailing point direction and for movements in facing point direction when conditions require.
  35. The normal position of a spring switch without facing point lock is identified by a triangular yellow target on switch stand with letter "S" in black, and "lunar white" light in switch lamp in place of green light displayed in both directions through or over the switch.
  36. Trains, when departing from stations, either from siding or main track in trailing point movement which actuate points of spring switches, a member of the crew must observe the indication of the governing signal in the opposite direction after rear end of train has passed through switch to ascertain if switch points return to normal position. If this signal indicates stop and no immediate train movement or other cause is evident report the fact to the Superintendent from the first available point of communication.
  37. **SWITCH INDICATORS AT SPRING SWITCHES.**  
A Switch Indicator, consisting of a single yellow light unit (normally dark) and a switch-key-controller mounted on an iron mast located at the clearance point of a siding, must be operated by a member of the crew who, together with the engineer, must observe and be governed by its indication before fouling main track or making movement from a siding to the main track through a spring switch in automatic signal territory, unless the movement is made immediately after an opposing train has passed the switch.  
If the Indicator displays a yellow light when the switch-key-controller is operated, train or engine movement to the main track may be made immediately in accordance with train rights and operating rules. Display of yellow light must continue until the leading wheels have passed the clearance point.  
If the Indicator does not display a yellow light when the switch-key-controller is operated, every precaution consistent with train rights and operating rules must be taken to provide proper protection before passing the clearance point and fouling the main track.  
To operate Switch Indicator, insert switch key in controller and turn clockwise toward "R", and hold a few seconds. If yellow light is displayed and intended movement is not made, insert switch key in controller and turn counter-clockwise toward "N" to restore signal system to normal condition to avoid delays to trains on main track.  
Switch-key-controller must never be operated toward "N" after having been operated toward "R" if intended movement to the main track is to be made.
  38. Facing point locks on hand operated switches are indicated by a six inch yellow stripe painted on target staff. Be positive locking device is restored to normal position after using. A running switch must not be made through this type switch.
  39. Unless otherwise displayed, yard limit signs of the reflectorized type consist of the letter "Y" and approach signs, one mile distant, are diamond shaped.
  40. Employees are forbidden to go out on ledges, running boards, or any other outside structure of ditchers, steam shovels, cranes or other similar machines while moving.
  41. Employees must not go out on exterior of cab or use running board, nor hang from gangway or steps of moving engine. Using the narrow ledge along the bottom of the engine cabs to pass to or from cab to running board or to work from is prohibited. This narrow ledge is to be used only in cases of extreme emergency when it is necessary to escape from the cab in this manner to prevent injury from escaping steam, hot water, fire or similar causes.  
If necessary to get out on running board of engine, engine must not be moving and employees shall use the steps that are provided on the front of the engine from pilot to running board. On engine in roundhouse or shop it is permissible to use ladders or special built stair platforms.
  42. Under Consolidated Code Rule 24, engine number only will be displayed in indicators on engines so equipped. This will also apply when our engines are operating over Northern Pacific tracks. Between Klamath Falls and Chemult, Southern Pacific Rules will govern.
  43. When picking up train orders on head end of train it must be done from window of engine cab and never from gangway or steps.
  44. While Consolidated Code Rule 204(A) prescribes that copies of train orders will be furnished the rear trainman, such orders will only be furnished on trains designated, as follows: Nos. 1, 2, 3, 4, 7, 8, 9, 10, 28, 29, 30, 355, 358, 359, 360 and sections thereof; also any extra passenger train whether operated as section of regular trains or as a passenger extra.
  45. When no color indication is displayed by a train order signal of the color light type, trains which have not been notified must stop. Trains thus stopped may proceed after securing clearance from operator. If there is no operator on duty, call the operator and secure clearance. Failing to contact operator communicate with train dispatcher for instructions before proceeding. Report the fact to the Superintendent from the first available point of communication.
  46. When engine is being spotted for purpose of taking fuel or water, or leaving there, it will not be moved until it is positively known that employees are located where they will not be injured. Manhole cover must not be opened until actually necessary and closed immediately after using. Avoid overflowing engine tanks particularly during freezing weather to prevent ice forming on ground, grab irons, tanks and foot boards of engines.
  47. Employees must see that manhole covers on fuel oil cistern of oil burning engines are securely fastened by all lugs after fuel oil has been taken.
  48. On stoker equipped engines, stoker must be stopped before employees attempt to pass through or perform any work in the coal space of tender.
  49. Employees who are authorized to move engines at shops and roundhouses, either on inside or outside tracks, must, by inspection, know before moving engine that it is in condition to be moved, and be positive that no one is working underneath or around it that is liable to be injured. When necessary to work under engine on outside tracks another employee will stand watch to prevent engine being moved.
  50. When moving engines or heater cars in or about roundhouse tracks, employees in charge of such movement must see man is stationed on rear end of engine or on leading end of heater car while movements are being made and at night white light must be displayed on the rear end of engine or heater car.
  51. No employee will move the reverse lever of an engine without first knowing that no one is working around links or other parts who might be injured thereby.
  52. Employees firing up boilers must see that boiler is full of water, that reverse lever is in center of quadrant with throttle closed and cylinder cocks open before starting fire to generate steam in boiler.
  53. The hole in fire box door of oil burning engines will be closed except when being used for sanding purposes.
  54. Air hose on diesel and electric engines must be hooked up in hose fastener when not in use.

55. Before leaving any engine terminal enginemen will make proper tests and inspections of water glasses, gauge cocks, water column and injectors, and will not leave the terminal unless all these are in proper working order.

Should enginemen on steam engines find that the water is not in sight in water glasses, and if water cannot be raised to bottom gauge cock or water glass by opening throttle, on oil burning engines the fire must be extinguished immediately and on coal burning engines the fire must be knocked out or smothered to the extent there will be no damage done to the crown sheet. If water can be raised to the bottom gauge cock or water glass the water level should be built up by use of the pump, or injector, or both.

Should the low water alarm whistle blow, on any engine so equipped, enginemen will immediately ascertain where the water level is in the boiler by blowing out water glasses and water column, and being sure that water glass mounting valves are open and if water cannot be raised to the bottom gauge cock or water glass by opening throttle, enginemen will be governed by instructions in the preceding paragraph.

56. Wheel slip light on Diesel engines functions because of a difference in voltage between two traction motors. This is caused by the power wheels revolving at different speeds which may be due to either one pair of wheels slipping or sliding.

When one pair of wheels slip on one or more trucks the Wheel Slip Light on the engineer's instrument panel will light intermittently.

When one pair of wheels lock or skid, due to a broken pinion or axle gear, or the armature shaft frozen on its bearings, the Wheel Slip Signal will light and give a continuous warning as long as power is being supplied to the motors.

When the Wheel Slip Light gives continuous warning, the train should be brought to a stop and positive observation made to ascertain whether or not all the Diesel truck wheels are turning. In the event that a pair of wheels is locked, Superintendent should be notified immediately and no attempt made to move engine until properly authorized.

57. On Diesel road engines consisting of one or more units in freight and passenger service, the following will govern in the event of emergency:

In the event that enginemen observe Diesel engine emitting fire, smoke or water; or in event of derailment, fire in one of the units; or broken connecting rod or other rotating part in one of the engines causing excessive pounding, the enginemen should immediately shut down all the engines from the operating position in the engineer's control station in the cab. This can be done on road engines by pushing the button at the end of the throttle handle with the thumb and then moving the throttle forward to the farthest position.

The fuel pump switch at the control box should also be pulled; and in the event of fire, the emergency fuel cut-off valve cord should be pulled.

If there is any question in the engineer's mind as to what is occurring in the trailing cabs, all the units should be shut down from the operating cab as stated above and details investigated when the train has stopped.

In the event of a fire in the engine, fire fighting equipment should be operated in accordance with the instructions mounted in each engine cab.

58. Diesel engines are provided with bayonet gauges or lubricating oil sight glasses which provide a means of determining the lubricating oil level in the engine. The oil level should always be between the "Low" and "High" limits. Any increase in oil level in the crankcase above the "Full" mark would indicate a fuel oil or water leak into the oil pan. If this condition is found, the engine should be shut down and not again operated until a qualified mechanic or supervisor ascertains whether the engine is in safe condition to continue operation.

59. When necessary to shut down one of the engines on freight or passenger Diesel engines during freezing weather the following will govern:

- (a) Engine should be drained to low level and "G" valve opened.
- (b) Steam admission valve to engine must be opened to supply steam to engine cooling system from steam generator.

60. **MARS LIGHT.**

Engineers operating engines equipped with Mars Light must familiarize themselves with the instructions and will be governed by the following:

Mars Light on engines are of a type that will display either a white, or emergency red, oscillating light. An operating headlight panel switch is located to the right of the engineer. First turn on dynamo motor generator snap switch adjacent to panel switch, then turn on snap switch on headlight panel switch. This will start the oscillating motion of the light. The operating lever on headlight panel may then be placed in one of the following positions: emergency red—off—full—dim—which will display corresponding lights: bright emergency red light—bright white light—dim white light. This light takes a 480 watt, 12 volt globe.

The Mars Light on engines will be used in addition to the headlight and will be displayed in the same manner as the headlight as prescribed by Rules 17 and 17(B) of the Consolidated Code of Operating Rules.

When necessary, the Mars Light can be used as an emergency headlight in case of failure of regular headlight, or as a focus light in territories where there is falling rock. When used as a focus light the Mars Light will come to a stop by turning off the oscillating snap switch, then by operating the push button on the headlight panel switch it can be focused to any position desired.

When necessary to use the Mars Light as a protection light on engine, the engineer must immediately place the operating lever in red position and it must be used in that position by day or night when protection is required in double and single track territory such as—when a train is disabled or stopped suddenly by an emergency application of the air brakes; over-running the fouling point at meeting or waiting points, at end of double track or a junction; or other emergencies when in the judgment of the conductor or engineer protection is necessary at front end of train or engine.

Engineer of an approaching train finding a Mars Light displayed in red position must immediately stop and if running on an adjacent track will not proceed until it has been ascertained that track is clear and will then proceed at restricted speed until train has been passed.

The use of the emergency red oscillating light at either the head end or rear end of train does not in any way relieve enginemen and trainmen from complying with requirements of Rules 99 and 102 of the Consolidated Code of Operating Rules or the observance of other rules.

Conductors and trainmen on trains equipped with Mars Light at rear of train must familiarize themselves with instructions on the type of light and location of switches which control the light and will be governed by the following:

Mars emergency red oscillating light on cars are of two types—Automatic Control and Portable Manual Control. The Master Switch, emergency switch, pilot light and detailed instructions covering operation of light are located in locker inside of car. There are two emergency switches on business cars, lounge and parlor cars with non-vestibule ends;—one inside of car and the other on outside at rear under body of car on engineer's side. When the master switch is cut out the Mars Light may be turned on and off by either of these emergency switches.

On cars equipped with automatic control light, immediately as the train departs from its initial station the flagman must at once turn on the master switch which will set the automatic control and emergency red light into operation; it will continue to operate automatically when train speed is below 18 MPH and off when above that speed. Light will remain burning during stops.

If the automatic control feature fails, the Mars Light will remain burning continuously regardless of train speed. Under such condition flagman must promptly cut out master switch and operate light manually with emergency switches.

Portable Mars Light can be turned on and off by a pull and push switch mounted on outside casing of light. Before coupling another car on rear the Portable light must be removed.

Automatic control or Portable Mars red light must be displayed by day or night each time train stops; also, when moving under circumstances in which it might be overtaken by another train or engine, and also during foggy and stormy weather. When necessary to protect train at speeds above 18 MPH the flagman may operate light manually with the emergency switch complying at all times with requirements of Rule 99.

Flagman must make frequent inspection to determine that Mars Light is functioning properly, particularly when going out to flag.

The pilot light must not be depended on as indicating that the Mars Light is burning. If pilot light is burning and Mars Light

is out this is an indication that Mars Light globe is burned out. If both Mars Light and pilot light are not burning check the fuses. If this fails to correct, the conductor will wire Car Foreman at next terminal. Spare globes are carried in rack in the locker. Mars Light on cars take a 250 Watt, 82 Volt globe. The Mars Light must be extinguished under following conditions:

- (a) When train is standing at the initial and terminal stations.
- (b) When switching is to be performed from rear end of trains.
- (c) When train is on siding to be passed by another train.
- (d) When operating in double track or in territory where another train is approaching from the rear on an adjacent track, but not until the flagman has definitely ascertained that the approaching train is running on the adjacent track.

The terms "Initial" and "Terminal" stations as used herein refer to the starting and ending points of the train run, such as St. Paul, Duluth, Seattle, etc.

**61. ON ENGINES, PASSENGER AND FREIGHT CARS EQUIPPED WITH ROLLER BEARINGS, EMPLOYEES WILL BE GOVERNED AS FOLLOWS:**

American Steel Foundries' type roller bearings have the roller bearing in the hub of the wheel and standard journal brasses in the journal box. Should the roller bearing fail, or overheat, the axle will then turn on the conventional brass in the journal box and should be given the same attention as standard non-roller bearing boxes. If the roller bearings should fail in such a manner as to permit the wheel to wobble on the axle, care must be exercised, train moved slowly to first siding and car set out.

Roller bearing failures on cars or engines equipped with roller bearings in the journal boxes may be due to lack of oil. If the box is not blazing, the oil plug in the cover should be removed and engine or valve oil added. Oil must never be added to a box that is blazing. After the oil has been added and plug replaced, the train should proceed at reduced speed and care exercised until it is apparent that the box will run cool. A car equipped with roller bearing that is on fire must be closely watched, train moved slowly to first siding and car set out. Prompt report of all roller bearing failures occurring on engines and cars must be made to the Superintendent from the first available point of communication.

Some engines and cars equipped with roller bearings have heat indicators or stench bombs inserted in the housing of boxes which release a strong pungent odor in the event of excessive journal box temperatures. When this odor is detected train must be stopped at once and box located. Compare the temperature of this box with the other boxes on the same engine or car, check the oil level, and if there is no evidence of overheating, train may proceed, but if the box is overheating proceed only as instructed in the preceding paragraph.

**62. TRAIN INSPECTION.**

On passenger trains frequent running inspection shall be made from the vestibules in various parts of the train and trainman should so place himself so as to take advantage of air currents or other atmospheric conditions. When stops are made for water or fuel, or when on siding at meeting points and at other stops where in the judgment of the conductor it is necessary, a careful inspection shall be made of the running gear.

Freight and mixed trains when stopped for the purpose of taking fuel, water, meeting trains, station work, train orders, etc., conductors must see that careful inspection is made of running gear before proceeding, and when practicable such stops should be made between switches. This, however, does not relieve trainmen from making inspection when other stops permit or whenever in the judgment of the conductor it is necessary.

During stormy weather, when view of running gear is obscured, or if other conditions require, more frequent inspections shall be made.

Engine and trainmen must frequently look along both sides of the train from the head end and the rear end, especially while rounding curves and approaching sidings, to observe condition of train. They must be on the lookout for signals given by other employees who may observe defects on passing train. Frequent inspection shall be made by trainmen of track behind moving train to detect if anything on the train is dragging so that if any indications of fresh marks on the track are observed the train may be brought to a stop as quickly as possible to avoid derailment. When caboose is equipped

with electric spot light it shall be used at night to make such track inspection; when not so equipped trainmen shall use electric lantern for this purpose.

During winter weather at points where inspections are made train line in first four cars behind engine shall be thoroughly blown out to prevent ice from forming in train line due to moisture accumulation.

These instructions do not supersede Rules 713 and 812 of the Consolidated Code of Operating Rules, but are supplementary thereto.

63. Rule D-97 is in effect on this division.

64. Between Lewistown and Spring Creek Jct.,  
Emerson Jct., Vaughn and Dracut Jct.,  
Eastham Jct. and Choteau Jct.,

The following will govern the joint operation of Great Northern and CMStP&P. RR. Co. trains: Lewistown, transfer track will be used as a main track by Great Northern trains moving to and from CMStP&P. main track and must be kept clear. Lewistown, westward Great Northern trains departing from Great Northern passenger station will obtain clearance from G.N. and CMStP&P. dispatchers.

Great Falls, westward CMStP&P. trains departing from Milwaukee passenger station will obtain clearance from G.N. dispatcher. Bulletin boards of CMStP&P. RR. located in Great Northern passenger station, Lewistown, Telegraph Office and Roundhouse, Great Falls. Bulletin boards of Great Northern located in Milwaukee passenger station, Lewistown and Great Falls.

Hanover is a joint station. Crews of both railroads will perform station switching of its respective business at Hanover and Arro Spur.

Great Northern trains will handle its business at Hobson Elevator Spur, between Eastham Jct. and Choteau Jct. on CMSt P&P. RR. tracks.

**WATCH INSPECTORS**

Butte .....	J. W. Uncles.
Conrad .....	Harold Pyle.
Glasgow .....	E. T. Bowles.
Great Falls .....	Wheeler & Barnes.
Havre .....	Francis A. Black & Lained L. Black.
Helena .....	R. W. Crawford.
Judith Gap .....	Agent—Comparison only.
Lewistown .....	Mrs. A. Scheidt.
Plentywood .....	A. G. Amundson.
Saco .....	Agent—Comparison only.
Shelby .....	Peter Lee.
Sidney .....	J. B. Finneman.
Snowden .....	Agent—Comparison only.
Whitefish .....	Dr. Leon Reed.
Williston .....	R. M. Gross.

# SPEED TABLE

Time Min.	Per Mile Sec.	Miles Per Hour	Time Min.	Per Mile Sec.	Miles Per Hour
	40	90.0	1	12	50.0
	41	87.8	1	14	48.6
	42	85.7	1	16	47.4
	43	83.7	1	18	46.1
	44	81.8	1	20	45.0
	45	80.0	1	22	43.9
	46	78.3	1	24	42.9
	47	76.6	1	26	41.9
	48	75.0	1	28	40.9
	49	73.5	1	30	40.0
	50	72.0	1	33	38.7
	51	70.6	1	36	37.5
	52	69.2	1	39	36.4
	53	67.9	1	42	35.3
	54	66.6	1	45	34.3
	55	65.4	1	50	32.7
	56	64.2	1	55	31.3
	57	63.1	2	0	30.0
	58	62.0	2	10	27.7
	59	61.0	2	20	25.7
1	0	60.0	2	30	24.0
1	1	59.0	2	40	22.5
1	2	58.0	3	0	20.0
1	3	57.1	3	30	17.1
1	4	56.2	4	0	15.0
1	5	55.3	5	0	12.0
1	6	54.5	6	0	10.0
1	7	53.7	7	0	8.5
1	8	52.9	8	0	7.5
1	9	52.1	9	0	6.7
1	10	51.4	10	0	6.0

T. J. Murphy, Chief Dispatcher.

P. W. Doles, Chief Dispatcher.

E. F. Oviatt, Trainmaster.

N. F. Seil, Trainmaster.

G. W. Noffsinger, Trainmaster.

R. W. Downing, Trainmaster.

T. J. Brennan, Trainmaster.