



# **GREAT NORTHERN RAILWAY COMPANY**

## **SPOKANE DIVISION**

# **Special Instructions No. 5**

**EFFECTIVE 12:01 A. M.  
— PACIFIC TIME**

=====  
**Tuesday, July 1, 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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**D. B. JENKS, Superintendent  
I. E. MANION, General Manager  
J. B. SMITH, General Superintendent Transportation**



# FIRST SUBDIVISION

(Main Line)

## 1. MAXIMUM SPEED FOR TRAINS.

For Streamliner, see Item 1, Page 10.

Between	Passenger	Freight
Hillyard and Lyons .....	45 MPH	35 MPH
Lyons and Wenatchee .....	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.

Spokane, all trains approach crossover east of bridge 270, and crossover west of Howard Street at restricted speed.

Spokane, public crossing Howard Street .....	12 MPH
other public grade crossings .....	20 MPH
Bridge 270, Spokane, R-1, R-2, SP&S E-1, Z-6 .....	20 MPH
Bridge 273, Spokane, Q-1, S-1, N-3, SP&S E-1 .....	20 MPH
R-1, R-2, SP&S Z-6 .....	10 MPH
Bridge 274, Fort Wright, Q-1, R-1, R-2, S-1, N-3, SP&S E-1, Z-6 .....	20 MPH
Between Galena and East Galena:	
All trains on straight track .....	15 MPH
on curves and public crossings .....	8 MPH
Ephrata, 2.2 miles east of, Army Air Depot spur.....	8 MPH
Between Home Signals of Interlockings at: .....	20 MPH
Spokane, U.P.R.R. Crossing.	

## 3. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Engines heavier than O class not permitted on following tracks: Between Galena and East Galena, and on spur track serving Army Northwest Air Depot Yard at Galena. East Galena, GN engines not permitted on Chemical Spur and Warehouse Spur. If necessary to set out or pick up on these tracks hold on to enough cars as reachers. Ephrata, 2.2 miles east of, Army Air Depot Spur, south of siding.

## 4. TRAIN REGISTER EXCEPTIONS.

Hillyard, Nos. 1, 2, 3, 4, 27, 28 and passenger extras register by ticket. Spokane, first class trains and trains originating or terminating at passenger station will register and receive clearance. Appleyard, register is for second and inferior class trains, except Nos. 381-382 and passenger extras will register by ticket. Wenatchee, register is for first class trains, Nos. 381-382 and passenger extras.

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

Spokane, clearance issued and signed by the Superintendent will confer the same authority to a first class train as though received at its initial station.

## 6. RESTRICTED CLEARANCES.

In electrified zone all wires must be considered alive unless a clearance has been obtained from operator at Skykomish Substation.

Appleyard, and between Appleyard and Wenatchee, high voltage electric wires over tracks will not clear man on top of cars. Train and engine men must keep off top of cars and engines passing thru this territory, except in emergency, then use extreme caution.

The following overhead wires crossing our track and trolley in electrified zone, do not have standard clearance of 27 ft. from top of rail:

Rock Island, 1 mile west of .....	23' 9".
Appleyard, MP 1646 .....	25' 6".
Between Appleyard & Wenatchee, highway bridge:	
Over Main track .....	19' 9".
Over Lead track .....	21'.

7. Double track extends between Hillyard and Fort Wright, except over bridge 274 and S.P.&S. Jct. which is governed by interlocking signals.

8. Spokane, east switch of crossover from westward main track to transfer track just east of westward home signal at U.P. RR Crossing interlocking is equipped with electric switch lock. Instructions governing its use are posted in "Lock" box.

9. Spokane, between the hours of 7:00 a. m. and 11:00 p. m. daily, watchman will protect movements over public grade crossings and railroad crossing at Trent Avenue and Sheridan Street. Between the hours of 11:00 p. m. and 7:00 a. m. daily, trains and yard engines must stop before moving over these crossings and a member of the crew on the ground at the crossing will protect the movement.

10. Spokane, derail on N.P. transfer track located 160 feet east of switch to train yard about one-fourth mile east of Division St.

11. Spokane, derail on connecting track between First Subdivision and Sixth Subdivision 87 feet west of N.P. transfer track switch just west of Trent Avenue.

12. Spokane, City Ordinance prohibits sounding of engine whistle within the city limits, except to prevent accident not otherwise avoidable, or to signal an interlocking, or to communicate with a flagman.

13. East Galena, 3 miles east of, trains and engines must stop before moving over Cheney Highway grade crossing, and a member of the crew on the ground at the crossing will protect the movement.

14. Spokane, loud speaker system is connected with the branch line dispatcher's desk. There is a telephone at each loud speaker location so contact can be made with dispatcher when necessary. Dispatcher will announce over loud speaker when trains leave Fort Wright or Hillyard that require service of switch engines or helper engine.

Yardmaster Spokane will see that the set out from freight trains is made promptly on arrival and see that the main track is kept clear for the freight train to pull through Spokane so that the automatic block signals will show "Proceed" indication and avoid stopping trains and blocking Howard Street. Yardmaster on duty will be held responsible for compliance.

## 15. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:

Westward trains, between MP 1492 and MP 1493, east of Galena.

Eastward trains, between MP 1612 and MP 1613, 2 1/2 miles west of Winchester.

Eastward trains, between MP 1644 and MP 1645, 1/2 mile west of Malaga.

## 16. CROSSOVERS ON DOUBLE TRACK.

Facing point.

Trailing point.

MP 1473.14 west of Hillyard.

MP 1476 east of UP Tower, Spokane.

MP 1476.69 on Br. 269, Spokane.

MP 1477.12 east of Br. 270, Spokane.

MP 1477.22 east of Br. 270, Spokane.

MP 1477.61 (Scissors) on Br. 273 west of Spokane passenger depot.

MP 1477.61 (Scissors) on Br. 273 west of Spokane passenger depot.

MP 1478.41 west of Br. 273, Spokane.

350' east of depot, Harrington.

3200' west of depot, Mohler. 2000' west of depot, Downs.

## 17. EMERGENCY TELEPHONES.

Spokane, when stopped by Stop-indication at automatic block signal 1475.3, telephone is provided so cause may be determined to prevent train pulling down and blocking street crossings—

Fort Wright, east end bridge 274 .....

Fort Wright, west switch .....

Bluestem, east end double track .....

Lamona, east of water tank .....

West end double track .....

Wilson Creek, west switch .....

Middle of siding .....

Ephrata, east wye switch .....

Trinidad, water tank .....

West switch .....

Appleyard, east lead switch .....



**18. SPRING SWITCHES WITH FACING POINT LOCK.**

Lyons .....east and west siding switch.  
 Galena .....east and west siding switch.  
 Espanola .....east and west siding switch.  
 Edwall .....east and west siding switch.  
 Nemo .....east and west siding switch.  
 Odessa .....east and west siding switch.  
 Irby .....east and west siding switch.  
 Wilson Creek .....east siding switch.  
 Ephrata .....east and west siding switch.  
 Trinidad .....east and west siding switch.  
 Voltage .....west siding switch.  
 Wenatchee .....east and west crossover switch west end yard.  
 Olds crossover .... (Connection to W-O line).  
 Normal position is for main track.

**19. SPRING SWITCHES WITHOUT FACING POINT LOCK.**

Hillyard, east end yard, connection of east yard lead to track No. 5.  
 Normal position is for track No. 5.

**20. MANUAL INTERLOCKINGS.**

Spokane, 1.17 miles east of,....UP RR crossing.  
 Fort Wright .....End of double track and SP&S Ry Jct.

Whistle signals for routes:  
 Spokane, UP RR crossing:

Main track .....1 long.  
 GN-SI Ry Transfer No. 1 .....1 long, 1 short.  
 GN-SI Ry Transfer No. 2 .....2 long, 1 short.  
 Fort Wright:  
 Main Track GN Ry .....1 short, 1 long.  
 Main Track SP&S Ry .....1 long, 1 short.  
 Siding GN Ry .....2 long, 1 short.

**21. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.**

Hillyard.....end of double track east and west end of yard,  
 East end of yard, switches at end of double track, yard lead and Safety switch are interlocked.

West end of yard, switches at end of double track, yard lead and Spike yard lead are interlocked.

Interlockings at east and west end of yard are electrically controlled from depot.

Main track between these interlockings is a single track.

If a train is stopped by a Stop-indication and no immediate conflicting train movement is evident, trainmen shall communicate with the operator and be governed by his instructions.

At east end of yard push buttons are provided in iron box locked, with a switch lock, located at West No. 5 switch and on eastward home signal at Safety switch for operation by trainmen for movement of eastward trains from yard to eastward or westward main tracks.

Eastward trains leaving yard will use westerly push buttons in order to line routes instead of pulling down and using push button at eastward home signal Safety switch.

Instructions for operation of push buttons are posted in these boxes which must be locked after using.

When the yard lead junction spring switch is lined for a facing point movement to west yard lead, a green target and green light will be displayed on the switch stand.

When spring switch is lined for a facing point movement to east yard lead, a yellow target and yellow light will be displayed on the switch stand.

When spring switch is not properly lined for facing point movement a red light will be displayed at switch stand height on eastward home signal mast at Safety switch.

For trailing point movements from either yard lead a lunar white light will be displayed.

When so instructed by the operator, interlocking switches may be lined by hand for switch or other train movements as required.

Electric switch machines are equipped with two levers for hand operation. These are latched and locked with a switch lock.

Move "Short" lever to position displaying "Hand".

Move lever marked "Hand Throw" slowly until clutch engages and switch points begin to move with "Hand Throw" lever.

Switch may now be lined by hand as desired.

"Short" lever shall be left in position displaying "Hand Throw" until all switching, or other train or engine movements over the switch, has been completed, when "Hand Throw" lever shall be latched in either position and "Short" lever shall be moved to position displaying "Power" and locked. All home signals will indicate Stop during the period "Short" lever is in position displaying "Hand".

Under no circumstances shall a hand signal be given for a train or engine movement over an interlocking switch unless the "Short" lever is in position displaying "Hand" and the switch has been lined in a position desired by the "Hand Throw" lever.

Whistle signals for routes west end of yard:

Eastward trains,  
 To main track .....1 long, 1 short, 1 long.  
 To yard .....1 long, 1 short.

Westward trains,  
 To westward main track .....1 long.  
 To eastward main track .....2 long, 1 short.

**22. SEMI-AUTOMATIC INTERLOCKINGS.**

Bluestem .....end of double track.

Lamona .....end of double track.

Bluestem and Lamona, interlockings operate automatically for all movements with the following exceptions:

Train movement from single track to double track running against the current of traffic requires push button operation at home signal.

Lamona, when movement is to be made from double track to siding, the siding switch must not be lined until engine is within home signal limits.

Lamona, eastward train moving out of siding immediately after westward train has passed, must operate switch release push button located on eastward home signal to line route for eastward main track.

Bluestem, westward train moving out of siding immediately after eastward train has passed, must operate switch release push button located opposite switch to line route for westward main track.

**23. SWITCH INDICATORS.**

Ephrata, indicator is located 2.2 miles east, near hand operated Air Depot switch.

Push buttons and instructions for their operation are in 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 switches or fouling main track.

If the 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.

## SECOND SUBDIVISION

(Oroville Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	Diesel Engines	Passenger	Freight
Wenatchee and Oroville .....	35 MPH	35 MPH	30 MPH
Oroville and Hedley .....	25 MPH	25 MPH	25 MPH

### 2. SPEED RESTRICTIONS.

H-4 engines, on straight track .....	30 MPH
on curves .....	20 MPH

### 3. ENGINES RESTRICTIONS.

Engines heavier than class indicated are prohibited:  
Between Wenatchee and Omak, O-4.  
Between Omak and Oroville, F-8, H-4.  
Between Oroville and Hedley, G-3, G-4 and 1000 H.P. Diesel.

4. Chopaka-Cawston, trains will not pass International Border without permission of Customs and Immigration Inspectors.

5. Wakefield, Tonasket, Riverside, take water only when absolutely necessary.

6. OLDS crossover is located 950 ft. east of MP 1653 on main track and 2200 ft. south of MP 3 on W-O line as connection to main track. Between this point and Wenatchee this track will be designated as yard lead instead of W-O main track and will be operated under Yard rules and all trains using this track must expect to find track occupied. Normal position of both switches is for main track movement.

## THIRD SUBDIVISION

(Kettle Falls-Nelson Lines)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	
Troup Jct. and South Nelson .....	15 MPH
South Nelson and Kettle Falls .....	20 MPH
Kettle Falls and Valley .....	30 MPH
Valley and Dean .....	30 MPH

### 2. SPEED RESTRICTIONS.

Northport, wye tracks .....	8 MPH
Dolomite, spur track .....	10 MPH
Chewelah, thru town limits .....	8 MPH
Deer Park, thru town limits .....	10 MPH
Between Northport and Troup Jct., trains handling logs	15 MPH

### 3. ENGINE RESTRICTIONS.

Engines heavier than class indicated are prohibited:  
Between Dean and Northport, M-2.  
Between Northport and Nelson, G-3.

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

(a) Great Northern clearance received at Nelson will clear train at Troup Jct.

(b) Kettle Falls, all trains must secure clearance.

5. Troup Jct., northward trains must stop clear of junction switch before entering Canadian Pacific main track and know track is clear.

6. Apex, northward trains must stop and make service test of air brakes before descending Nelson hill.

7. Boundary-Waneta, trains will not pass International Border without permission of Customs and Immigration Inspectors.

8. Fruitvale, water tank located 3 miles south.

9. Marble, water tank located 4 miles south.

### 10. EMERGENCY TELEPHONES.

Wayside .....	Booth
Clayton .....	Booth
Loon Lake .....	Booth
Springdale .....	Booth
Grays .....	Booth
Addy .....	Booth
Arden .....	Booth
West Kettle Falls .....	Booth
Evans .....	Booth
Marble .....	Booth

### 11. SWITCH INDICATORS.

Dean, indicator is located near hand operated junction switch for movements from Spokane division Third subdivision to Kalispell division Fourth subdivision.

Push buttons and instructions for their operation are posted in 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 switches or fouling main track.

If the 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.

## FOURTH SUBDIVISION

(Republic Line)

### 1. MAXIMUM SPEED FOR TRAINS.

Between	
Kettle Falls and Republic, all trains .....	20 MPH

### 2. SPEED RESTRICTIONS.

Trains handling loaded log cars .....	15 MPH
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### 3. ENGINE RESTRICTIONS.

F-8 heaviest permitted.

4. Kettle Falls, normal position of junction switch is for Third Subdivision.

5. Laurier-Grand Forks, trains will not pass International Border without permission of Customs and Immigration Inspectors.

### 6. EMERGENCY TELEPHONES.

Boyds .....	Booth
Grand Forks .....	Customs Office
Danville—1 mi. west .....	Booth
Curlew .....	Booth



## FIFTH SUBDIVISION

(Mansfield Line)

- 1. MAXIMUM SPEED FOR TRAINS.**  
Between  
Columbia River and Mansfield, all trains ..... 20 MPH
- 2. SPEED RESTRICTIONS.**  
Trains handling steam derrick, over bridges ..... 5 MPH
- 3. ENGINE RESTRICTIONS.**  
F-8 heaviest permitted.
- Columbia River, normal position of junction switch is for siding on First Subdivision.

## SIXTH SUBDIVISION

(Moscow Line)

- 1. MAXIMUM SPEED FOR TRAINS.**  
Between  
Spokane and Moscow, all trains ..... 25 MPH
- 2. SPEED RESTRICTIONS.**  
Trains handling steam derrick, over bridges..... 5 MPH  
Bridge 23.2 Mt. Hope, 2 miles west of ..... 8 MPH  
Spokane, between Tudor and Sprague Avenues..... 10 MPH  
Moscow, thru city limits ..... 10 MPH
- 3. ENGINE RESTRICTIONS.**  
G-3 or 1000 HP Diesel heaviest permitted.
- 4. RESTRICTED CLEARANCES.**  
Spokane, bridge 1.5 will not clear man on top or sides of cars or engines. Train and engine men must keep off top or side of cars and engines while passing over bridge, except in emergency and then use extreme caution.
- Bridge 23.2, 2 miles west of Mt. Hope, trains or engines must stop before crossing bridge.

## SEVENTH SUBDIVISION

(Coeur d'Alene Line)

- 1. MAXIMUM SPEED FOR TRAINS.**  
Between  
Spokane and Coeur d'Alene, all trains ..... 25 MPH
- 2. SPEED RESTRICTIONS.**  
Trains handling steam derrick over bridges ..... 5 MPH  
Spokane, Crestline St., UP and CMStP&P RR crossings 15 MPH  
Millwood, public crossing..... 4 MPH  
Coeur d'Alene, thru City limits, at restricted speed.
- 3. ENGINE RESTRICTIONS.**  
G-3 or 1000 HP Diesel heaviest permitted.
- 4. RESTRICTED CLEARANCES.**  
Between Spokane and Coeur d'Alene, train and engine men must keep off top and sides of cars and engines, except in emergency and then use extreme caution account restricted side and overhead clearance at various points.
- Coeur d'Alene, trains and engines must stop before passing over 11th Street and Mullan Avenue crossings and movement must be protected by flagman on the ground at the crossing.
- Coeur d'Alene, trains and engines must stop and sound two blasts of engine whistle before proceeding over Diamond Drill Crossing.

7. Operation between Spokane Bridge and Coeur d'Alene, a distance of 12 miles, is consolidated with the CMStP&P RR and trains will be governed by CMStP&P RR Time Table and Special Instructions.

Trains on this Subdivision leaving Spokane will be cleared thru the Great Northern dispatcher to Spokane Bridge and will be cleared at Spokane Telegraph office by the CMStP&P RR dispatcher for movement from Spokane Bridge to Coeur d'Alene. Trains leaving Coeur d'Alene will be cleared by the Great Northern dispatcher for movement from Spokane Bridge to Spokane and by the CMStP&P RR dispatcher at their office in Coeur d'Alene for movement from Coeur d'Alene to Spokane Bridge.

- 8. EMERGENCY TELEPHONES.**

Millwood Transfer track .....	Booth
Carders .....	Booth
Flora Jct. ....	Booth
Greenacres .....	Booth
Spokane Bridge .....	Booth
Coeur d'Alene, MP 32.....	Booth
Gibbs .....	Booth

- 9. MANUAL INTERLOCKINGS.**

Inland Jct. 0.71 miles east of,....UP and CMStP&P RR crossings

## EIGHTH SUBDIVISION

(Colfax Line)

- 1. MAXIMUM SPEED FOR TRAINS.**  
Between  
Spring Valley and Colfax, all trains ..... 25 MPH
- 2. SPEED RESTRICTIONS.**  
Trains handling steam derrick over bridges..... 5 MPH
- 3. ENGINE RESTRICTIONS.**  
G-3 or 1000 HP Diesel heaviest permitted.
- 4. RESTRICTED CLEARANCES.**  
Colfax tunnel will not clear man on top or sides of cars and engines. Between Spring Valley and Colfax, train and engine men must keep off top and sides of cars and engines, except in emergency and then use extreme caution account restricted side and overhead clearances at various points
- Colfax, trains and engines while switching or moving in and out of depot must use extreme care in passing over North and Last Streets account restricted view.
- 6. SEMI-AUTOMATIC INTERLOCKINGS.**  
Colfax, 0.29 miles west of .....UP RR crossing  
Normal position of gates is stop for Great Northern. GN train and engine movements over UP crossing are governed by manually operated gates electrically locked. Instructions for their operation are posted in lock box locked with a switch lock located at gate. Operation of gate nearest lock box also operates gate on opposite side of UP track by means of mechanical connection.
- 7. RAILROAD CROSSING PROTECTED BY GATES.**  
Thornton, 0.57 miles west of.....UP RR crossing  
Normal position is stop for Great Northern.



## 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, except No. 22, 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, all trains and engines except first-class must clear the main track not less than ten minutes before Nos. 1, 21, 2 and 22 are due to leave last station where time is shown.

#### MAXIMUM SPEED OF STREAMLINERS.

Maximum speed of Streamliner trains, consisting of Streamliner 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. 5, the "D" signs designate zone speed territories and the numerals thereon indicate in miles per hour the maximum permissible speed which will govern until the next zone is reached.

Between Hillyard and Fort Wright, Streamliners will be governed by speed restriction as indicated under Item 2, First Subdivision. 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 ft. 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 OF STREAMLINERS.

Stations	Zone Territories		Maximum Speed MPH	
	Between Mile Posts		Westward	Eastward
Hillyard .....	1472.5 and 1473.6		40	40
Spokane .....	1473.6 " 1477.5		20	20
	1477.5 " 1478.0		12	12
Fort Wright .....	1478.0 " 1479.8		40	40
Lyons .....	1479.8 " 1489.2		45	45
Canby .....	1489.2 " 1514.6		75	75
Bluestem .....	1514.6 " 1520.5		60	60
	1520.5 " 1520.7		35	50
	1520.7 " 1522.3		50	50
	1522.3 " 1522.7		50	45
Harrington .....	1522.7 " 1529.0		60	50
	1529.0 " 1542.0		65	55
Lamona .....	1542.0 " 1542.2		65	35
Odessa .....	1542.2 " 1556.7		65	65
	1556.7 " 1559.0		60	60
	1559.0 " 1571.8		65	65
	1571.8 " 1572.2		55	55
	1572.2 " 1573.3		65	65
Wilson Creek .....	1573.3 " 1618.3		70	70
Quincy .....	1618.3 " 1620.7		60	60
	1620.7 " 1622.6		45	45
	1622.6 " 1623.6		35	35
Trinidad .....	1623.6 " 1628.6		45	45
	1628.6 " 1640.7		60	60
Rock Island				
Bridge 359 .....	1640.7 " 1642.3		35	35
	1642.3 " 1646.8		60	60
Wenatchee .....	1646.8 " 1650.3		55	55
	1650.3 " 1661.0		45	45

### 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 thru 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 Track ..... 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 Track ..... 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 thru 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 thru No. 20 turnouts at: ..... 35 MPH  
 Hillyard, end of double track east and west end of yard.  
 Fort Wright, end of double track.  
 Fort Wright, SP&S Junction.  
 Bluestem, end of double track.  
 Lamona, end of double track.

Trains or engines thru No. 15 turnouts at: ..... 25 MPH  
 Lyons, east and west siding switch.  
 Nemo, east and west siding switch.  
 Odessa, east and west siding switch.  
 Ephrata, east and west siding switch.  
 Trinidad, east and west siding switch.  
 Wenatchee, east and west crossover switch west end of yard.

Trains or engines thru all other turnouts ..... 15 MPH  
 Between Hillyard and Fort Wright, Streamliners will be governed by speed restriction as indicated under Item 2, First Sub-division.

### 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-3 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 employes, unless they work in joint territory where such rules are in effect:

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

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

(b) Employes 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 diaphragm full width of the car. There is no clearance between the ends of these cars when coupled. Employes 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, engines 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 tank of helper engine. This as a matter of safety because employes are prohibited from using running board of engine or passing from front of engine to caboose while train is in motion.

(f) Employes 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. Employes 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 employes, when carrying baggage or other articles, except brake club and lantern, are prohibited from climbing up or walking over top of train.

(i) Employes 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 the end of a 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. Employes 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, employes 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 employe, 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 thru trains, and dozers properly turned. Hand screws must be tightened to raise flanger on dozers as high as possible before making a back-up 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 employe.
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 buildings 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 the event of steam failure on the train engine and a non-steam train line engine is furnished to handle the 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 No. 312 steam coupler, which can be attached to hose with steam dome connection and in case of steam line failure on a car both hose 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 the 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 re-brass 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 employes 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 thru 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 thru 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 thru 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 thru 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 thru this type switch.
39. Unless otherwise displayed, yard limit signs of the reflectorized type consist of letter "Y" and approach signs, one mile distant, are diamond shaped.
40. Employes 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. Employes 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 case 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 employe 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 trains 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 employes 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. Employes 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 employes attempt to pass thru or perform any work in the coal space of tender.
49. Employes 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 employe will stand watch to prevent engine being moved.
50. When moving engines or heater cars in or about roundhouse tracks, employes 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 employe 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. Employes 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 engines 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 glass, 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 the 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 the 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 light; 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 engineers and train men 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, 32 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 employes who may observe defects on passing trains. 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. Trains handling flat or skeleton cars loaded with logs must stop at appropriate locations immediately before passing over through-truss bridges or through tunnels and make thorough inspection of all cars of logs in their train, making certain train and lading are in safe condition before proceeding. Extra stops en route will be made for this purpose when in the judgment of the conductor it is necessary. Trainmen must maintain watch behind their trains for logs that may have rolled off cars and if main track is fouled take prompt action to protect trains. On double track, conductors must notify train dispatcher when logs are to be handled and the log train must be at stop when being passed by other trains, except that when two trains handling logs are passed, either one should stop until the other train has pulled by whether on siding or double track. On single track, trains handling logs must be at stop when meeting or being passed by passenger and freight trains, except when there are more cars than siding will hold, it is permissible for log train to pull by such trains at restricted speed. In electrified zone and double track territory, logs must be secured to cars by chains or cables, except between Hillyard and Fort Wright. Unless conditions require further speed restrictions, trains handling logs must not exceed 25 MPH.
65. Engineers making stops to take water with long heavy freight trains will cut off their engines and not attempt to spot at water spout.
66. Red signs have been placed on frost boxes of water tanks and oil tanks, as follows:  
 Oil Tanks—in case of emergency, close large valve in frost box.  
 Water Tanks—in case of emergency, close large valve in frost box.

#### LOCATION OF TUNNELS

##### First Subdivision:

- Tunnel No. 11.1—0.85 miles west of Crater.  
 Length—953.2'.  
 Height—23'.
- Tunnel No. 12 —1.85 miles west of Columbia River.  
 Length—221'.  
 Height—22.2'.

##### Second Subdivision:

- Tunnel No. 8.4—0.43 miles north of Zena.  
 Length—434'.  
 Height—22.9'.
- Tunnel No. 15.7—2 miles north of Wagnersburg.  
 Length—763'.  
 Height—22.1'.
- Tunnel No. 35.3—3.36 miles north of Stayman.  
 Length—358.5'.  
 Height—22.4'.
- Tunnel No. 7 —4.83 miles north of Oroville.  
 Length—1761'.  
 Height—22.5'.

##### Fourth Subdivision:

- Tunnel No. 1 —3.8 miles west of Hurlburt.  
 Length—113.1'.  
 Height—21.3'.

##### Fifth Subdivision:

- Tunnel No. 1 —4.1 miles north of Palisades.  
 Length—750'.  
 Height—21.3'.

##### Eighth Subdivision:

- Colfax tunnel —2.8 miles east of Rye.  
 MP 72.4  
 Length—629.5'.  
 Height—20.5'.

#### WATCH INSPECTORS

- A. F. Benson, Newport.  
 H. H. Trowbridge, 5012 No. Market, Spokane (Hillyard).  
 H. J. March, N. 221 Washington St., Spokane.  
 Nelson Jewelry Co., 408 Riverside Avenue, Spokane.  
 Funk's Jewelry Store, Wenatchee.

## 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	—	30.0
	58	62.0	2	10	27.7
	59	61.0	2	20	25.7
1	—	60.0	2	30	24.0
1	1	59.0	2	40	22.5
1	2	58.0	3	—	20.0
1	3	57.1	3	30	17.1
1	4	56.2	4	—	15.0
1	5	55.3	5	—	12.0
1	6	54.5	6	—	10.0
1	7	53.7	7	—	8.5
1	8	52.9	8	—	7.5
1	9	52.1	9	—	6.7
1	10	51.4	10	—	6.0

R. I. Triplett, Chief Dispatcher, Spokane.

C. M. Rasmussen, Trainmaster, Spokane.

J. H. Lloyd, Trainmaster, Spokane.

L. E. Barnes, Trainmaster, Wenatchee.

T. J. Brennan, Trainmaster, Wenatchee.