

NORTHERN PACIFIC RAILWAY COMPANY

Lake Superior Division

Special Instructions No. 12

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

Sunday, April 1, 1956

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.

**I. W. BREWER,
Superintendent.**

**D. A. THOMSON,
General Manager.**

**E. S. ULYATT,
General Superintendent
of Transportation.**

ALL SUBDIVISIONS.

1. Speed Restrictions—

Maximum Speeds Permitted

Passenger trains	75 MPH.
Freight and mixed trains	50 MPH.

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

Where automatic block and interlocking rules and signal indications require movement at restricted speed, such movement must be made prepared to stop short of train, obstruction or switch not properly lined and be on lookout for broken rail or anything that may require the speed of a train to be reduced, but a speed of 15 MPH must not be exceeded.

The definition of Restricted Speed, as designated on page 8 of the 1945 Edition of the Consolidated Code of Operating Rules, will continue to apply except where automatic block and interlocking rules and signals govern as specified above.

Reduce speed limits, within the zones listed, are designated by Advance-warning signs (diagonally upwards), Reduce speed signs (square with clipped corners) and Resume speed signs (vertical).

The Advance-warning signs are, except as otherwise specified, located approximately 3000 feet in advance of the Reduce speed signs, and the numerals on both signs indicate in miles per hour the maximum speed permitted from the Reduce speed sign to another Reduce speed limit, or to a sign indicating a higher speed, or to a Resume speed sign.

If speeds authorized by zones or by Reduce speed signs are greater than that prescribed below for certain trains or engines, such trains or engines must not exceed the prescribed speeds.

Locations where reduced speeds are required, but not indicated by signs, are listed under the zones of maximum speeds permitted for each subdivision.

All trains and engines, except as otherwise specified:

Through crossovers, turnouts and gantlets, except where fixed signals provide otherwise.....	15 MPH.
Handling steam wrecking cranes, pile drivers, locomotive cranes and similar equipment	30 MPH.
Handling 4-wheel scale test cars { Main Line	35 MPH.
and scale test car 254..... { Branch Lines	25 MPH.
Picking up train orders from operators.....	30 MPH.

Engines— Classes—	Handling trains	Running light
A and Q (except on passenger trains where higher speed is authorized).....	60 MPH.	60 MPH.
Z-6, Z-7 and Z-8	60 MPH.	50 MPH.
Z-5, Y and Y-1	40 MPH.	35 MPH.
S-4, T, T-1, W to W-5 inc., and Y-2	50 MPH.	45 MPH.
Steam switch engines, without engine trucks, under all conditions	15 MPH.	15 MPH.
All other steam engines, backing up.....	30 MPH.	30 MPH.

(This restriction does not apply when engines are used as helpers not on head end of train.)

Diesel-electric engines—

No. 98	35 MPH.	35 MPH.
400 and 600 series	45 MPH.	45 MPH.
No. 525	60 MPH.	60 MPH.
100, 700 and 800 series	60 MPH.	60 MPH.
Nos. 500, 501, and 552 to 569 incl.....	65 MPH.	65 MPH.
200, 6000 and 7000 series except 244, 245	65 MPH.	65 MPH.
Nos. 550-551	75 MPH.	65 MPH.
244, 245, 6500, 6600 & 6700 series.....	75 MPH.	65 MPH.
5400 series	55 MPH.	55 MPH.

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

Cars B-3, B-12 and B-13	55 MPH.
Cars B-6, B-11 and B-14 to B-26 incl.....	65 MPH.
Cars B-30 and B-40	75 MPH.

Coming from shops, under steam, to prevent running hot:

All A and Q and classes Z-6, Z-7 and Z-8.....	50 MPH.
S-4, T, T-1, W to W-5 inc., Y-2, Z-5.....	35 MPH.
Y and Y-1	30 MPH.

Main Line—With main and side rods removed:

All A and Q and classes Z-6, Z-7 and Z-8.....	30 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-2 inc.....	25 MPH.

With main rods removed and side rods in place:

All A and Q and classes Z-6, Z-7 and Z-8.....	35 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-2 inc.....	30 MPH.

Branch Lines—With either or both main and side rods removed:

All A and Q classes	25 MPH.
All other classes steam engines.....	20 MPH.

On bridges—With either or both main and side rods removed:

Steam switch engines, without engine trucks	15 MPH.
Other engines	20 MPH.

In the event the above speeds are in excess of 50% of the permissible speed for operating the engine in working order over any bridge carrying speed restrictions, speed on such bridges shall be 50% of the permissible speed for engine in working order.

Dead steam engines going to shops or being transferred from one district to another with all rods up or in place, the piston rod parted from the crosshead and removed and the valve motion disconnected and blocked, may be moved in trains at not to exceed the permissible speed of freight trains operating in the territory over which the engines are to be moved, or the operating speed restriction for track or bridges for that class of engine, whichever is the lower.

Engines handled in this manner when coming from shops must not exceed the operating speeds specified for engines coming from shops under steam.

Diesel-electric engines may be handled dead in trains at not to exceed the authorized operating speed specified for such engines.

Bridge or other restrictions must be observed for these engines the same as when in operating condition.

2. Single and Double Headers; operation—track and bridges—general.

Where there are no governing restrictions specified for double headers in the special instructions for each subdivision, they will be governed by the most restrictive instructions applicable to a single engine when of the same class and to the heavier engine when of different classes.

Where double header restrictions are specified, double headers of different classes of engines will be governed by the restrictions applicable to double headers of the heavier class.

When necessary to doublehead a diesel-electric engine with a steam engine, except in case of emergency, the steam engine must be placed behind the diesel engine.

When two, Four-Unit Diesel locomotives are used to double head freight trains, the leading engine only will apply power to start train, or to make backup movement with cars.

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

To avoid possibility of fire or damage to traction motors, diesel-electric engines must not be permitted to pass over or to stand on cinder pits containing live fire or hot cinders.

Under no circumstances should diesel-electric engines pass through water which is deep enough to touch the bottom of the traction motor frame. When passing through water, movement must always be at very slow speed (2 to 3 MPH).

Where multiple-unit diesel-electric engines are used in freight service, both the fireman and the head brakeman shall not be absent at the same time from the leading cab while the train is under way on main track between stations.

Unit letters will be used in addition to engine numbers of all passenger and freight road diesels except Engines 6600 and 6601. When two or more Diesel units are coupled in multiple unit operation, the number of the leading unit only will be displayed in accordance with the provision of Rule 24 and used in train orders as prescribed by Rule 206.

Wrecking cranes—250 tons, 45 to 48 inc. must not be coupled directly to engine or tender of engines Classes A-2 to A-5 inc. or Z-5 to Z-8 inc., but must be separated from them by at least two cars of not over 169,000 pounds total weight, for movement over bridges.

8. Use of Mars headlight on engines so equipped—

The Mars headlight can be displayed with either stationary or oscillating white light at the same time that the standard headlight is in use, but cannot be displayed with either stationary or oscillating red light when the standard headlight is in use.

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

The Mars oscillating red light will be used when head end protection is required, either by day or by night by engineer control, if the train becomes disabled or is stopped suddenly due to unusual occurrence with the possibility of an adjacent track being obstructed, or if it overruns the clearance point at a meeting or waiting point, or at the end of double track or at a junction, or in any other emergency situation.

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

The Mars red light shall be displayed in stationary position when a train is occupying the main track at a meeting point with an opposing train until the headlight of the opposing train has been dimmed, per Rule 17(B), after which the red headlight shall be extinguished, and the standard white headlight turned on dim until opposing train is into clear on siding.

The use of the red headlight does not in any manner relieve the train or engine men of responsibility for compliance with the provisions of Rules 99 and 102.

4. Rule 19, Figs. 2 to 9, inclusive and Rule 19(B) of the Consolidated Code of Operating Rules and General Instructions, Edition 1945, are supplemented as follows:

"When the rear unit of a train is equipped with built-in electric markers, or electric signal lamps, they must be lighted by day and by night to be considered as markers, and the requirement for showing green to the front or direction of movement and green to the side will not apply.

"Train crews arriving at terminals must not extinguish the built-in markers, or electric signal lamps used as markers, until the train has been delivered to connecting crew or is clear of the main track and the switch is closed."

5. Rule 6(A) is modified to include the following variations of the letter "W" which indicate:

W (full-faced type) Water facilities for both steam and Diesel power.

W (capital type) Water facilities for steam power only.

w (small type) Water facilities for Diesel power only.

6. Rule 200—Lights will not be displayed by night on train order signals on the 8th and 9th Subdivisions, except at Walker and Blackduck. Trains will be governed by the day indication of these train order signals.

7. Rule D-97 applies on all subdivisions.

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

9. Cars will not be handled behind light-weight observation cars except in emergency or when so authorized by the Superintendent. In such cases passengers shall not be permitted to pass between such cars while train is in motion due to the unprotected opening.

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

4-wheel scale test cars must be handled only in local freight trains. All scale test cars must be placed immediately ahead of caboose.

Instructions for Handling Pile Drivers, Cranes, Derricks, Shovels or Similar Equipment of the Swinging or Pivoting Type are as follows:

(a) When such equipment is moved on their own wheels they shall be prepared and carded in accordance with current A. A. R. Loading Rules unless some condition exists which prevents those requirements being complied with.

(b) Equipment properly prepared and carded may be moved at normal freight train speeds unless there is some condition that prevents it, and in that event the maximum permitted speed shall be noted on the waybill.

(c) Such equipment when not prepared and carded shall be handled at speeds not to exceed 30 miles per hour.

(d) Such equipment that is geared for self-propulsion shall have the driving gears disconnected or removed.

(e) Such equipment that is Company-owned that requires speed to be restricted shall be covered by a message to the train crew stating the maximum speed permitted.

When handling pile driver 25, it must be coupled to either the regular tender or a flat or gondola car with open end next to cab end of pile driver to provide proper clearance.

Open cars loaded with material which may shift, such as poles, pipe, timbers, etc., shall not be placed immediately next to diesel-electric engines nor to cabooses in trains.

10. Precautions must be taken on double track to prevent accidents from swinging doors or other loose construction attached to cars or engines. Trains handling logs must stop when being met or passed by passenger trains.

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

Roller bearing failures on cars or locomotives equipped with roller bearing boxes may be due to lack of oil or grease. If the box is not blazing, the oil plug in the cover should be removed and heavy oil added and plug replaced. Oil must never be added to a box that is blazing. Grease lubricated roller bearing boxes have grease plugs locked with a metal strap which must be cut off with chisel before plug can be removed. In case of a hot box, oil should be added and the plug replaced; train should proceed at reduced speed and care exercised until it is apparent the box is running cool.

When operating B-24, B-16, or Budd R.D.C. Car in Automatic Block Signal territory, or on crossing protected by electric signals, engine must be moved at least one car length after making station stop where sand was used.

12. Electric Switch Locks—Two types in service—To operate either type, unlock and open the door.

On locks stenciled "FORCE DROP LOCK", turn lock handle to the plate reading "MOVE LEVER HERE AND WAIT FOR UNLOCK", then follow instructions in sections (a) (b) (c) (d).

On other electric locks, follow instructions in sections (a) (b) (c) (d) after door is opened.

(a) If indicator shows proceed or "UNLOCKED":

Turn lock handle to left until it rests on stop lock.

Line switch in usual manner and movement may be made at once.

(b) If indicator shows stop or "LOCKED" and no conflicting train movement is evident:

Unlock time release box (if provided) and push the button to start time release. After time release has completed operation, indicator will normally show proceed or "UNLOCKED".

Turn lock handle to left until it rests on stop block.

Line switch in usual manner and movement may be made at once.

(c) After final movement over switch is made:

Restore and lock switch in normal position.

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

Close and lock doors of time release box (if provided) and electric lock.

(d) Exception—If indicator fails to show proceed or "UNLOCKED" after time release (if provided) has completed operation, and if electric lock is provided with emergency release located at left of indicator:

Remove wire seal and operate emergency release lever.

Wait three (3) minutes after operating emergency release lever, then line switch for movement in usual manner.

Immediately notify train dispatcher so he may call signal maintainer to reset emergency release, as signals will remain at stop until repairs are made.

13. Spring Switches—
Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows red to an approaching train or engine a trailing point movement actuating the spring switch points must not be made.

Signal operation at spring switches equipped for switch key operation—The normal indication of main track signal is Proceed. The normal indication of siding signal is Stop. To clear the siding signal when train is ready to enter main track, insert switch key in control box and turn to right. If route is clear the siding signal will immediately clear.

If siding signal does not clear by switch key operation, open release box and push the button which will put the time release mechanism into operation. After time release has operated, the siding signal will clear if there is no conflicting train movement.

The release box door must be left open until leading wheels of train on the siding have passed the siding signal, then close and lock the release box door. If the siding signal has been cleared and train on the siding is not ready to depart, if necessary to clear signals for a main track movement, open the release box door and push the button which will start the time release mechanism. After the time release mechanism has started to operate, close and lock the release box door.

When a train, light engine or any piece of equipment moves through a spring switch in such a manner as to throw the points, the conductor or a member of the crew shall observe if the signal governing movements in the opposite direction moves to the approach or the proceed position. If it remains in the stop position and there are no other train movements in evidence that would cause it to remain in that position, the dispatcher shall be notified from the nearest open telegraph office that the signal remained in the stop position and also, when practicable, the first opposing train cautioned.

14. Bulletin Stations—

Ashland—Soo Line Passenger Station.
Duluth—Union Depot, Fifth Ave. Yard Office, Rices Point Yard and Roundhouse, West Duluth Roundhouse, Soo Line Passenger Station.
Superior—Soo Line Yard and Roundhouse.
Carlton—Passenger Station and Roundhouse.
Ironton—Passenger Station.
Brainerd—Passenger Station and Roundhouse.
North Bemidji—Yard Office and Roundhouse.
International Falls—Passenger Station and Roundhouse.
Staples—Passenger Station, Yard and Roundhouse.
Hinckley—Passenger Station.
White Bear Lake—Passenger Station.
St. Paul—Miss. St. Yard and Roundhouse, CMStP&P Yard and Roundhouse.

Train and Engine men from St. Paul and Minneapolis without access to bulletins at those points will check bulletins at White Bear Lake.

15. Standard Time Clocks—

Duluth—Union Depot, Rices Point Yard Office and Round House.
Carlton—Passenger Station.
Brainerd—Passenger Station.
North Bemidji—Yard Office.
International Falls—Passenger Station.
Staples—Passenger Station, Round House and Yard Office.
Hinckley—Passenger Station.
White Bear Lake—Passenger Station.

16. Watch Inspectors—

Bemidji—O. E. Erwig; Willis Norden.
Brainerd—R. A. Ashmun.
Carlton—Schrafters Jewelry.
Cloquet—T. W. Alaspa.
Duluth—Kanter Jewelers, 325 W. Superior.
Erwin Moen, 1908 W. Superior.
Nold Jewelers, 414 N. Central.
H. W. Schmidt, 25 West Superior.
Harlan Wells, 208 W. 1st St.
International Falls—J. A. Sher.
Staples—Imgrund's Jewelry; C. E. LaBonte.
Superior—Peters' Jewelry, 1126 Tower Ave.
Howatt Jewelry, 1425 Tower Ave.

FIRST SUBDIVISION.

(MAIN LINE)

1. Speed Restrictions— Zone—Between	Maximum Speeds Permitted	
	Freight	Passenger
Ashland and Allouez	35	40
Except, MP 12 (west of Moquah) and Allouez on curves	25	25
Trains handling loaded ore cars	20	----
Trains handling ore loaded in other than ore cars	25	----
All trains and engines, 7th Ave. West to 22nd Ave. West, between MP 0 and 2, Ashland	10 MPH.	----

2. Bridge and Engine Restrictions:

N. P. steam engines classes Q-5 and heavier, and Soo Line engines classes N-20, L-3 and heavier, not permitted east of Allouez. Soo Line engines class L-4 are permitted.

Double header Soo Line engines classes L-2 and heavier not permitted.

Wrecking cranes, 250 tons or heavier, 45, 46, 47 and 48 not permitted.

Bridge 0, Vaughn Avenue:

Bridge 5, Fish River:

Bridge 49, Middle River:

All trains25 MPH.

Bridge 37, Brule River:

Double header engines25 MPH.

Bridge 48, Poplar River:

Bridge 53, Amnicon River:

Single header Soo Line engines Class L-2 and L-4 and double header DSS&A diesel engines25 MPH.

Heavy Car Restrictions: Cars with total weight exceeding 214,000 pounds not permitted. Cars less than 30 ft. long with total weight of 170,000 to 214,000 pounds must be separated from each other and from engine or tender with an empty car; cars 30 ft. or more long with total weight exceeding 169,000 pounds must be separated from engine or tender, with a car 40 ft. long with total weight not over 169,000 pounds.

3. At Ashland—Normal position of main track switch just east of Seventh Ave., leading to the Soo Line, is for the Soo Line connection.

At Ellis Ave., all trains must stop in advance of crossing, and will proceed only after crossing is protected by a member of the crew.

4. Between Allouez and Duluth, Duluth and Superior Terminals instructions govern.

5. Yard Limits—Tracks between yard limit signs west of East End and east of Allouez.

6. Register Stations—

Central Avenue.

East End.

Ashland, Soo Line Station.

Superior, Soo Line 21st Street Yard Office, for DSS&A trains.

7. Clearance Exceptions—

At Allouez—Trains originating secure clearance at Central Avenue, or Soo Line 21st Street Yard Office.

SECOND SUBDIVISION.

(MAIN LINE)

1. Speed Restrictions— Zone—Between	Maximum Speeds Permitted	
	Freight	Passenger
Central Ave. and Anton	50 MPH.	65 MPH.
Anton and State Line Both Tracks,....	50 MPH.	60 MPH.
Against the current of traffic	49 MPH.	59 MPH.
State Line and MP 20 (Barker)	50 MPH.	60 MPH.
MP 20 and MP 28 (Carlton)	50 MPH.	65 MPH.
MP 28 and MP 148 (Staples)	45 MPH.	55 MPH.

Trains handling loaded ore cars40 MPH.
 At Brainerd, over public crossings10 MPH.
 First class trains—
 Between east switch of north siding (east of car
 shop) and St. Paul Division connection at 8th St.20 MPH.
 Between St. Paul Division connection and 8th
 Subdivision Jct.Restricted speed.
 At Aitkin, through village30 MPH.
 At Carlton, over double-slip switch within interlocking;
 through movements via Second Subdivision30 MPH.
 Other movements15 MPH.

2. Bridge and Engine Restrictions—

Between Central Ave. and Brainerd:
 Engines classes A-2 to A-5 inc. and Z-5 to Z-8 inc., not permitted.
 Wrecking cranes, 250 tons or heavier, 45, 46, 47 and
 4815 MPH.
 Bridge 9 just west of Central Avenue20 MPH.
 Avoid using automatic brakes on bridge, except in emergency.
 Bridge 119, Mississippi River:
 Double headers, engines class Z-5 not permitted.
 Single headers, engines class Z-5 5 MPH.
 Double headers, steam engines classes A-2 and heavier.. 5 MPH.
 Single headers, engines classes A-2 and heavier, except
 Z-510 MPH.
 Wrecking cranes, 250 tons or heavier,
 45 to 48 inc.15 MPH.
 At Wrenshall—
 Steam engines classes W and heavier not permitted on Refinery
 Track.
 At Brainerd—
 Steam engines classes A- to A-5 inc. and heavier not permitted
 on east leg of St. Paul Division wye.
 Steam engines classes W and heavier not permitted on west end
 of tracks 13, 14, 15, 16 and 17.
 Steam engines heavier than classes L-9 and L-10 not permitted
 on beer track, east end dump track, west end of No. 2 and No. 4
 lumber tracks and the roundhouse oil house track.
 Steam engines classes W-3 and heavier not permitted on follow-
 ing tracks:
 Wrenshall, brick yard.
 Zenith, gravel pit spur.
 Aitkin, power house spur, and hole track beyond First St.
 Motley, north spur.

3. At Carlton—Eastward freight trains and light engines from the Second Subdivision will head in on North Siding, unless other- wise instructed. Such trains will report by telephone, from west end of yard, the time their train is into clear.

Westward trains, yard engines or branch trains will not use
 north siding without permission from the train dispatcher.

At Interlocking—Trains will call for route as follows:

Second to Second "East & West":	oo & oo.
Second to Third "East & West":	oo & ooo.
Second to Loop Track "West":	oo & oooo.
Second to 5th Subdivision "East":	oo & oooo.
Third to Third "East and West":	ooo & ooo.
Third to Second "East and West":	ooo & oo.
Third to Loop Track "West":	ooo & oooo.
Third to 5th Subdivision "East":	ooo & oooo.
Fifth to Second "West":	oooo & oo.
Fifth to Third "West":	oooo & ooo.
Fifth to Loop Track:	oooo & oooo.
Loop Track to Second "East":	oooo & oo.
Loop Track to Third "East":	oooo & ooo.
Loop Track to 5th Subdivision "West":	oooo & oooo.
Lower yard lead to Second Subdiv. "East and West":	—o.
No. 9 Lead through Interlocking "East and West":	—

Push button system controlling operation of lower arm of Sec-
 ond Subdivision Home Signal, Carlton Interlocking, has been
 installed to govern follow-up westward movements to either
 Second or Third Subdivisions. All follow-up movements will be
 governed by lower arm of Second Subdivision Home Signal as
 well as return movements to train after setting out in Carlton
 Yard from Second Subdivision Main Track.

Westward trains must not block "Chub Lake" highway crossing
 while taking water at Second Subdivision standpipe except that
 westward time freights may block this crossing not to exceed ten
 (10) minutes.

4. At McGregor—

At Interlocking—Trains will call for route as follows:

For Northern Pacific and Soo Line main tracks:	—
From Northern Pacific and Soo Line to West wye:	—o
From Northern Pacific and Soo Line to East wye:	o—
Between Interchange Track and West wye:	oooo
To eastward siding:	oo—
To Coal Dock Track:	oo— —

5. At Aitkin—Cemetery road crossing one mile west of this point must not be blocked in excess of ten (10) minutes, except in case of emergency, when it must be opened as soon as possible.

6. At Brainerd—St. Paul Division trains must stop before fouling Lake Superior Division main track.

St. Paul Division first class trains head in on inside track at
 passenger station.

Connection with 8th Subdivision is governed by automatic block
 signals.

City ordinance provides that crossings must not be blocked more
 than five (5) minutes by standing trains or cars. Shop cross-
 ings must not be blocked when employes are going to work at
 7:00 AM and 1:00 PM. Westward trains stop clear of shop
 crossing 300 feet east of Thirteenth Street, and eastward trains
 either move a sufficient distance to clear City crossings or stop
 clear of First Street crossing, to make setouts or pickups. Trains
 must not block Oak Street Crossing near milk plant and must
 promptly clear crossings when coupling up in South Yard for
 movement.

7. At Staples Interlocking—Westward trains which may be unable to start at home signal may pass signal 1459 only when lower arm indicates Proceed, and must then proceed at slow speed. If such indication is not secured, use telephone and then pro- ceed at restricted speed on instructions from towerman.

8. At Staples, St. Paul Division instructions govern.

9. Sidings—

McGregor, siding east of passenger station is westward siding.

Siding west of passenger station is eastward siding.

Aitkin, north siding is westward; south siding is eastward.

10. Signal Overlap—

Kimberly & Woodbury—Trains holding main track to meet an
 opposing train taking siding will stop before reaching signal
 overlap sign, about middle of siding, to avoid giving approaching
 train two stop signals.

11. Spring Switches—

Anton, at end of double track, normal position for westward
 track, equipped with facing point lock.

At Anton and State Line; time of all trains applies at end of
 double track.

Carlton, east switch of north siding equipped with facing point
 lock. Not equipped for switch key operation.

Woodbury, east switch of siding with facing point lock, equipped
 for switch key operation.

Kimberly, west switch of siding with facing point lock, equipped
 for switch key operation.

Deerwood, at junction of Second and Fourth Subdivisions, one
 and three-fourths miles east of passenger station, normal position
 for Second Subdivision main track, equipped with facing point
 lock.

Indications displayed by two-position color light signal control-
 ling spring switch indicate only if points of the spring switch are
 in proper adjustment.

12. Pusher Districts—Duluth to Sawyer.

13. Retaining Valves—On freight trains retaining valves shall be used on grades Sawyer to Pokegama, as outlined in following paragraphs:

Retaining valve handles must not be turned up until air brakes
 are all released following stop at Sawyer.

Handles to be turned up to low pressure (horizontal) position, beginning at head end of train, as follows:

Trains of 8000 tons or over—20 retainers.
Trains of 6000 tons or over—16 retainers.
Trains of 4000 tons or over—10 retainers.
Trains of less than 4000 tons—No retainers unless requested by engineman.

All retaining valves will be turned down where first stop is made, at either Pokegama, Central Ave. or Hill Ave.

On solid trains of ore, or trains consisting of a large percentage of ore, handled by steam engine, retaining valve handles must be turned up on one-fourth of the total number of cars in train. When engine has been cut off and recoupled, retaining valve handles will be turned down while brake pipe test is being made, then turned up again.

On solid trains of ore, or trains consisting of a large percentage of ore and handled by diesel-electric engines having dynamic brake in effective operating condition, retaining valve handles will be turned up on the first ten cars behind the engines. Cars having four-position direct release control retainers or converted type four-position retainers, handles to be turned up to direct release control position (diagonal upward). Cars having three-position retaining valves, handles to be turned up to low pressure (horizontal) position. Retaining valve handles to be turned down when stop is made at Pokegama, Central Ave., or Hill Ave.

On solid trains of ore, or trains consisting of a large percentage of ore, and handled by diesel-electric engines with dynamic brake inoperative on either unit, retaining valves will be handled the same as required for steam engines.

The feed valve will be adjusted and 90 pounds brake pipe pressure obtained prior to departure from Sawyer.

14. Register Stations—
Central Avenue, Carlton, Staples.
15. Register Exceptions—At Central Ave. and Carlton trains register by Form 608.
A check of register on Form 602 may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check, at Central Ave., Carlton, Deerwood, and Staples Interlocking.
At McGregor, for Soo Line trains entering, a check of the register, Form 602, may be issued by the operator when authorized by the train dispatcher as required, in addition to a previous train order check.
16. Clearance Exceptions—At Carlton, all trains secure clearance.

THIRD SUBDIVISION. (MAIN LINE)

1. Speed Restrictions—	Maximum Speeds Permitted		
	Loaded Ore Cars	Freight	Passenger
Zone—Between West Duluth Jct. and MP 143 (between Short Line Park and West Duluth Jct.).....	40	50	60
MP 143 and MP 135 (Brownell)....	25	25	45
MP 135 and MP 129 (West end Carlton yard)	40	50	60
MP 129 and MP 11 (White Bear Lake)	40	50	75
At Carlton, over double slip switch within interlocking, except through movements via Third Subdivision.....	15 MPH.		
At Wyoming, engines using Tyra spur at west end of siding	5 MPH.		

2. Bridge and Engine Restrictions—

Engines classes A-2 to A-5 inc. and Z-5 to Z-8 inc., not permitted.

Wrecking cranes, 250 tons or heavier, 45, 46, 47 and 4815 MPH.

3. At West Duluth Jct.—Switch at end of double track is automatically operated dual control. Normal position is for westward track.
4. At Short Line Park—Bill box equipped with Northern Pacific and DM&IR switch locks, located alongside interchange track, in place for handling waybills on cars interchanged between the Northern Pacific and DM&IR.
5. At Carlton—Second Subdivision instructions govern. Trains must not block Great Northern crossing while taking water at Third Subdivision standpipe.
6. At Hinckley—Cars must not be left on No. 1 yard track. Trains must not block highway crossing one-half mile west of passenger station, and South First Street Crossing more than five (5) minutes. Foot crossing west of coal dock must not be blocked with cars.
At Interlocking—trains will call for route as follows:
For Through Main Track Movement: —
For Movement from Main Track to Sidings: —o
For Movement from Sidings to Main Track: o—
For Movement between yard and eastward siding: oo

7. At Bald Eagle Tower:
Bill box, equipped with Northern Pacific and Soo Line switch locks, located on Northern Pacific track side at Interlocking Tower, in place, for handling waybills on cars interchanged between the Northern Pacific and Soo Line.
8. At White Bear Lake—West switch of crossover to New Yard will be left lined for the lead, which is the normal position.
NP Ry and M&StL Ry Joint Terminal instructions govern.
At White Bear Lake; time of all trains applies at end of double track.
9. Sidings—
Hinckley, siding east of Grind Stone River is westward siding; siding west of G. N. crossing is eastward siding.
Rush City, siding east of passenger station is westward siding, siding west of passenger station is eastward siding.

10. Signal Overlap—
At Sturgeon Lake—Westward trains holding main track to meet an eastward train will stop before reaching signal overlap sign west of passenger station, to avoid giving approaching train three stop signals.
At Rush City—Eastward trains holding main track to meet a westward train taking eastward siding, will stop before reaching signal overlap sign about the middle of the eastward siding, to avoid giving approaching train two stop signals.
At Forest Lake—Eastward trains holding main track to meet a westward train will stop before reaching signal overlap sign east of passenger station, to avoid giving approaching train three stop signals.

11. Spring Switches—
Pine City, west switch of siding, with facing point lock equipped for switch key signal operation.
12. Pusher Districts—Duluth to Otter Creek.
13. Retaining Valves—On freight trains retaining valves must be used on grades Brownell to MP 143. Handles to be turned up to low pressure (horizontal) position, beginning at head end of train, as follows:

Trains of 8000 tons or over—20 retainers.
Trains of 6000 tons or over—16 retainers.
Trains of 4000 tons or over—10 retainers.
Trains of less than 4000 tons—No retainers unless requested by engineman.

All retaining valves will be turned down between MP 143 and West Duluth Junction.

14. **Register Stations—**
West Duluth, Carlton, White Bear Lake.
15. **Register Exceptions—**
At West Duluth, Carlton and White Bear Lake trains register by Form 608.
A check of register on Form 602 may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check, at West Duluth, Carlton and White Bear Lake.
16. **Clearance Exceptions—**
At West Duluth Junction: Trains originating secure clearance at West Duluth.
At Carlton: all trains secure clearance.

FOURTH SUBDIVISION.

(CUYUNA NORTHERN BRANCH)

1. **Speed Restrictions—** Maximum Speeds Permitted
Zone—Between
Deerwood and Ironton 40 MPH.
2. **Bridge and Engine Restrictions—**Steam engines heavier than Class W-5 not permitted.
Trestles at Middleton and Armour Coal spurs, and bridge north of Sintering Plant, not safe for engines.
3. **At Deerwood—**Eastward trains use junction switch one and three-fourths miles east of passenger station; westward trains use crossover west of passenger station, unless otherwise authorized by train order.
Train order signal does not govern Fourth Subdivision trains.
4. **At Ironton—**Track must not be used beyond point 1,900 feet west of Trommald Jct.
5. **Spring Switches—**
Deerwood, at junction of Second and Fourth Subdivision main tracks, one and three fourths miles east of passenger station, normal position for Second Subdivision main track, equipped with facing point lock.
6. **Register Stations—**Ironton and Deerwood.
7. **Register Exceptions—**At Deerwood, when operator on duty, trains will register by Form 608.

FIFTH SUBDIVISION.

(CLOQUET BRANCH)

1. **Speed Restrictions—** Maximum Speeds Permitted
Zone—Between
Cloquet and MP 4 (west of Scanlon) 15 MPH.
MP 4 and Carlton 30 MPH.
Carlton, over double-slip switches through the Interlocking 15 MPH.
2. **Bridge and Engine Restrictions—**Between Carlton and MP 4, steam engines heavier than Class W-5 not permitted; between MP 4 and Cloquet steam engines heavier than Class W not permitted.
Wrecking cranes, 250 tons or heavier, 45 to 48 inc., not permitted.
At Cloquet, steam engines heavier than Class L-10 not permitted on following tracks:
Great Northern lead and trackage serving Diamond Match Industry.
D&NE interchange track.
Main track west of 2650 feet west of MP 6.
Trackage serving Northwest Paper Co. and Wood Conversion Co. industries except Wood Conversion Co. Yard No. 4.
Belt track.
West lead of Wood Conversion Co. Yard No. 4.
Team track.
D&NE connection at Broadway Street.
8. **At Carlton—**Second Subdivision instructions govern.

4. **At Cloquet—**D.&N.E. engines may use main track between D.&N.E. connection at Broadway St. 200 feet east of passenger station and west end of yard.
Trains and yard engines must stop at the Northwest Paper Mill crossing (East Cloquet), and protect crossing by flagman.
Movements over Arch Street crossing, West of passenger station, must be protected by flagman.
Derails located near East end of Great Northern tracks No. 1 and No. 2, are not provided with derail signs.
5. **Register Stations—**Carlton and Cloquet.
6. **Clearance Exceptions—**
At Cloquet trains will not require clearance.

SEVENTH SUBDIVISION.

(BULLHEAD LAKE BRANCH)

1. **Speed Restrictions—** Maximum Speeds Permitted
Zone—Between
Funkley and Kelliher 15 MPH.
2. **Bridge and Engine Restrictions—**
Engines classes Q-3 and heavier, and wrecking cranes, 250 tons or heavier, 45 to 48 inc., not permitted.
Heavy Car Restrictions, All Bridges.
Cars with total weight exceeding 214,000 pounds not permitted.
3. **Register Stations—**
Funkley Kelliher
4. **Clearance Exceptions—**
At Funkley: Westward trains will not require clearance.

EIGHTH SUBDIVISION.

(INTERNATIONAL FALLS BRANCH) (BRainerd TO NORTH BEMIDJI)

1. **Speed Restrictions—** Maximum Speeds Permitted
Zone—Between
Brainerd and North Bemidji 40 Freight Passenger 50
At Bemidji—Over public crossings at,
Carpenter Ave. 30 MPH.
Mill Park 20 MPH.
Skelly Oil 20 MPH.
Other public crossings 15 MPH.
2. **Bridge and Engine Restrictions—**
Steam engines classes Q-5 and heavier and classes G-1 and G-2, and wrecking cranes, 250 tons or heavier, 45 to 48 inc., not permitted.
Bridge 59.1, over Leech Lake, all trains 15 MPH.
Bridge 94, Mississippi River on Bemidji Line. Trains handling cars less than 30 ft. long with total weight exceeding 169,000 pounds when coupled in groups or next to engine or tender, or handling cars 30 ft. or longer with total weight exceeding 169,000 pounds when coupled next to engine or tender 20 MPH.
If such short cars are not coupled in groups or next to engine or tender and if such longer cars are not coupled next to engine or tender above restriction does not apply.
Heavy Car Restrictions:
Cars with total weight exceeding 214,000 pounds, not permitted.
3. **At Brainerd—**Connection with 2nd Subdivision is governed by automatic block signals.
The signal governing movements from the 8th to the 2nd Subdivision displays interlocking indication Rule (601A) and will not display a proceed indication until the junction switch is properly lined and there are no conflicting train or engine movements in the Automatic Block Signal territory.
Trains will be governed by Second Subdivision Time Table.
Train order signal does not govern Eighth Subdivision trains.
4. **At Bemidji Tower—**Trains will call for routes as follows:
For Through Main Track Movement—4 Long.
For East Leg of Wye in and out of Bemidji—2 Long.

Interlocking at crossing over GN and Soo Line tracks is unattended between the hours of 4:45 AM and 8:00 AM and 4:00 PM and 8:45 PM, daily. During these hours routes will be set for the GN and Soo Line.

If NP movement is necessary during closed hours, notify Trainmaster sufficiently in advance to call towerman.

5. **At Bemidji**—The wye switch on the Bemidji Branch will be in normal position when lined for the east leg of the wye. Within yard limit at Bemidji Tower, Bemidji, and North Bemidji, trains 11 and 12 will observe Operating Rule 93 the same as required of second class and inferior trains.

Tracks between yard limit sign east of Bemidji Tower, Bemidji, and yard limit sign west of North Bemidji, operated as one yard.

6. **Exclusive Sidings At**—
Pequot Lake Backus
Pine River Walker

Must not be blocked with cars except on authority of trainmaster, except in case of emergency and then must be reported at first open telegraph office.

7. **Register Stations**—
Brainerd North Bemidji

8. **Register Exceptions**—Eastward trains secure from the telegraph office at Brainerd by telephone check of register covering first class trains.

NINTH SUBDIVISION.

(INTERNATIONAL FALLS BRANCH) (NORTH BEMIDJI TO INTERNATIONAL FALLS)

1. **Speed Restrictions**—
Zone—Between Maximum Speeds Permitted
North Bemidji and International Falls..... 35 45
Over public crossing 200 ft. west of MP 97, between North Bemidji and Lavinia30 MPH.

2. **Bridge and Engine Restrictions**—
Steam engines classes G-1, G-2, Q-5 and heavier, and wrecking cranes, 250 tons or heavier, 45 to 48 inc., not permitted.
Bridge 166, Big Fork River and Bridge 185, Little Fork River:
All trains10 MPH.
Double header engines Classes W, W-1, W-2 and W-4 not permitted.

Cars with total weight exceeding 169,000 pounds must be separated from each other and from engine or tender with two cars 40 ft. long with total weight not over 169,000 pounds.

Heavy Car Restrictions, All Bridges:

Cars with total weight exceeding 214,000 pounds not permitted.

3. **At Bemidji**—Eighth Subdivision Instructions govern.
4. **At Big Falls**—Tail of wye must not be used beyond 1,195 feet from switch. Blandin Paper Co. tracks may be used for switching cars to or from temporary pulpwood platform.
5. **At Waukanha**—Spur track must not be used beyond 720 feet from switch.
6. **At Little Fork**—The time of first class trains and passenger extras applies at the passenger station.
7. **At International Falls**—On K and S tracks all movements across Sixth Street must be protected.
Within Yard Limits Trains 11 and 12 will observe Operating Rule 93 the same as is required of second class and inferior trains.
8. **Exclusive Sidings At**—
Little Fork, the River Track is the siding and must not be blocked with cars except on authority of trainmaster, except in case of emergency and then must be reported at first open telegraph office.
9. **Register Stations**—
North Bemidji, International Falls.
10. **Clearance Exceptions**—
At Funkley:
Trains originating will not require clearance.

TONNAGE RATINGS PER DIESEL UNIT BASED ON 50 TONS PER CAR

Lake Superior Division		Locomotive Numbers				Tonnage Rating Per Loco. Unit			
		Class of Engine				Tonnage Rating Per Loco. Unit			
Subdivision	District	100-106	244	5400-5410	Gp9 and F9 Series	T	W	W-3 W-5	Q-1
First—Eastward.....	Central Ave. to Iron River.....	400-427	245	500-501	2100	1200	1650	.....	.....
First Westward.....	Iron River to Ashland.....	700-724	245	500-501	2525	1350	1850	.....	.....
Second Eastward.....	Ashland to Central Ave.....	750	6000-6006	552-569	2100	1100	1500	.....	.....
Second Westward.....	Staples to Brainerd.....	800-803	6700	6007-6020	10750	3500	5400	8500	.....
Third Eastward.....	Brainerd to Deerwood.....	790	6800-6801	6050	4380	2650	4200	6000	.....
	Deerwood to Central Ave.....	960	Series	6050	5710	.....	5000	8500	.....
	Duluth to Sawyer.....	790	1050	2200	2100	1150	1600	2600	.....
	Sawyer to Brainerd.....	1440	1260	3050	3810	2800	3500	5200	.....
	Brainerd to Staples.....	1620	1050	4500	4280	2800	4000	5900	.....
	White Bear Lake to Hinckley.....	1260	1670	3500	3330	2250	3400	4000	.....
	Hinckley to Groningen.....	1120	1480	3100	2950	2150	3100	3700	.....
	Groningen to Carlton.....	1620	2140	4500	4280	2800	3900	5800	.....
	Carlton to Duluth.....	1440	1900	3050	3810	2600	3500	5200	.....

TONNAGE RATINGS PER DIESEL UNIT BASED ON 50 TONS PER CAR

		Locomotive Numbers										Tonnage Rating Per Loco. Unit			
		Class of Engine													
Subdivision	District											T	W	W-3 W-5	Q-1
		100-106 400-427 700-724 750 800-803	107-126	500-551 6500-6513 6550 6600-6601	244 245 6000-6006 6700 Series	5400-5410 500-501 552-569 6007-6020 6050	525 850-862				Gp9 and F9 Series				
Third Westward.....	Duluth to Carlton.....	790	950	1050	1360	1680	2200	2200	2100	2100	2100	950	1300	1800	.....
	Carlton to Hinckley.....	1530	1820	2020	2630	3240	4250	4250	4050	4050	4050	2300	3700	5400	.....
	Hinckley to White Bear Lake.....	1800	2150	2380	3100	3810	5000	5000	4760	4760	4760	2600	3900	5900	.....
Eighth Eastward.....	No. Bemidji to Brainerd.....	1070	1270	1410	1840	2260	2970	2970	2830	2830	2830	2700	3780	.....	2500
	No. Bemidji to Hackensack.....	1070	1270	1410	1840	2260	2970	2970	2830	2830	2830	1800	2510	.....	1670
Eighth Westward....	Brainerd to No. Bemidji.....	750	890	990	1280	1580	2070	2070	1970	1970	1970	1650	2310	.....	1530
	International Falls to Funkley	1010	1200	1330	1730	2130	2800	2800	2670	2670	2670	1700	2380	.....	1575
Ninth Eastward.....	Funkley to No. Bemidji.....	1850	2200	2440	3170	3910	5130	5130	4880	4880	4880	2700	3780	.....	2500
	No. Bemidji to Northome.....	950	1130	1260	1630	2010	2640	2640	2510	2510	2510	1900	2660	.....	1730
Ninth Westward.....	Northome to International Falls.....	1850	2200	2440	3170	3910	5130	5130	4880	4880	4880	2700	3780	.....	2500

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

MAXIMUM CLEARANCES.

LIMIT OF LOAD MEASUREMENT.													Governing Structure
Height Above Top of Rail.													
1 ft. Wide	2 ft. Wide	3 ft. Wide	4 ft. Wide	5 ft. Wide	6 ft. Wide	7 ft. Wide	7 ft. 6 in. Wide	8 ft. Wide	Max. Hgt.	Max. Wth.			
1st Sub-division, Ashland to Allouez.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"			
2nd Subdivision, Duluth to Staples.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"	St. Louis Bay Bridge		
3rd Sub-division, Duluth to White Bear Lake..	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"	Br. 131, St. Louis River		
4th Sub-division, Deerwood to Ironton Depot..	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"			
5th Sub-division, Carlton to Cloquet.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"			
8th and 9th Sub-divisions { Brainerd to Big Falls.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"			

Note:—Limit of load measurements based on 52' cars with 42' truck centers. Heights and widths in table allow 6 inches clearance. Table is based on open car loading equally divided on either side of center line of car.

MAXIMUM CLEARANCES.

	LIMIT OF LOAD MEASUREMENT.										Governing Structure
	Height Above Top of Rail.										
	8 ft. 6 in. Wide	9 ft. Wide	9 ft. 6 in. Wide	10 ft. Wide	10 ft. 6 in. Wide	11 ft. Wide	11 ft. 6 in. Wide	12 ft. Wide	Max. Hgt.	Max. Wth.	
1st Sub-division, Ashland to Allouez.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 4"	20' 6"	20' 6"	12' 0"	St. Louis Bay Bridge
2nd Sub-division, Duluth to Staples.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 4"	20' 6"	20' 6"	12' 0"	
3rd Sub-division, Duluth to White Bear Lake.	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 2"	20' 0"	20' 6"	12' 0"	Br. 131, St. Louis River
4th Sub-division, Deerwood to Ironton Depot..	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"	
5th Sub-division, Carlton to Cloquet.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"	
8th and 9th Sub-divisions, { Brainerd to Big Falls.....	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	12' 0"	Big Fork and Little Fork River Bridges

Note:—Limit of load measurements based on 52' cars with 42' truck centers. Heights and widths in table allow 6 inches clearance. Table is based on open car loading equally divided on either side of center line of car.

S. A. ANDERSON,
Asst. Superintendent.

J. J. AUGÉ,
Trainmaster.

J. C. BERGMAN,
Trainmaster.

C. E. JOHNSON,
Trainmaster-Roadmaster.

E. J. WIGG,
Chief Dispatcher.