BNSF

Burlington Northern Santa Fe

System Special Instructions

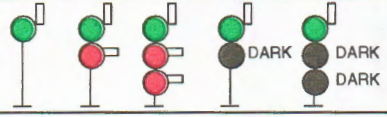
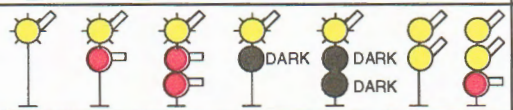
All Subdivisions No. 1

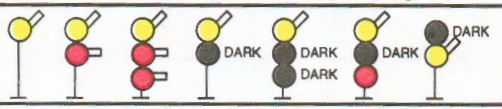
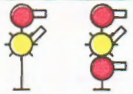
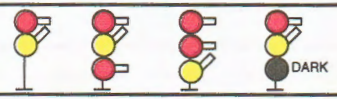
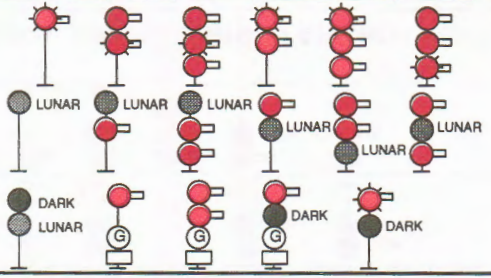
IN EFFECT AT 0001
Central, Mountain, and
Pacific Continental Time

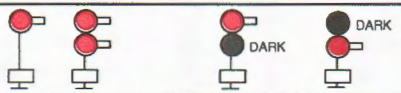
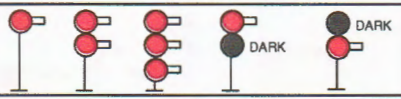
Thursday August 1, 1996

All signals are subject to modification indicated under individual subdivision special instructions.

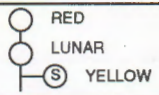
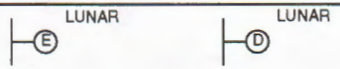
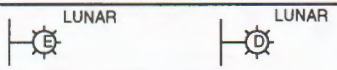
SIGNAL ASPECTS AND INDICATIONS

Rule	Aspects of Color Light and Semaphore Signals	Cab Signal Aspects	Name	Indication
DISTANT SIGNALS				
9.1.1			DISTANT SIGNAL CLEAR	Proceed. If delayed as per Rule 9.9 or Rule 9.9.1 between this signal and block or interlocking signal, proceed prepared to stop short of the next signal.
9.1.2			DISTANT SIGNAL APPROACH	Approach next signal prepared to stop short of next signal.
BLOCK AND INTERLOCKING SIGNALS				
Aspects shown in Rules 9.1.3 through 9.1.16 may be displayed on signals with or without a number plate on signal mast.				
9.1.3			CLEAR	Proceed
9.1.4			APPROACH LIMITED	Proceed prepared to pass next signal not exceeding 60 MPH and to advance on diverging route.
9.1.5			ADVANCE APPROACH	Proceed prepared to pass next signal not exceeding 50 MPH and to advance on diverging route.
9.1.6			APPROACH MEDIUM	Proceed prepared to pass next signal not exceeding 40 MPH and be prepared to enter diverging route at prescribed speed.
9.1.7			APPROACH RESTRICTING	Proceed prepared to pass next signal at restricted speed.

Rule	Aspects of Color Light and Semaphore Signals	Cab Signal Aspects	Name	Indication
9.1.8			APPROACH	Proceed prepared to stop at next signal, trains exceeding 40 MPH immediately reduce to that speed.
9.1.9			DIVERGING CLEAR	Proceed on diverging route not exceeding prescribed speed through turnout.
9.1.10			DIVERGING APPROACH DIVERGING	Proceed on diverging route not exceeding prescribed speed through turnout prepared to advance on diverging route at the next signal at prescribed speed through turnout.
9.1.11			DIVERGING APPROACH MEDIUM	Proceed on diverging route not exceeding prescribed speed through turnout prepared to pass next signal not exceeding 35 MPH. **Note:** This indication will be modified on certain subdivisions.
9.1.12			DIVERGING APPROACH	Proceed through diverging route; prescribed speed through turnout; approach next signal preparing to stop, if exceeding 40 MPH immediately reduce to that speed.
9.1.13			RESTRICTING	Proceed at restricted speed.

Rule	Aspects of Color Light and Semaphore Signals	Cab Signal Aspects	Name	Indication
9.1.14			STOP AND PROCEED	Stop, then proceed at restricted speed.
9.1.15			STOP	Stop.

SIGNAL ASPECTS WHICH ARE NOT PART OF AUTOMATIC BLOCK, CTC, AND INTERLOCKING SYSTEMS

DISTANT SIGNALS			
Rule	Aspects	Name	Indication
9.1.16		TAKE SIDING INDICATOR	When illuminated, hand operate switch to enter next siding or to leave siding and enter main track.
9.1.17		BLOCK INDICATOR	Block clear
9.1.18		BLOCK INDICATOR	Block occupied
9.1.19		SPRING SWITCH INDICATOR	When lunar is not illuminated, stop and inspect spring switches per Rule 8.9.
9.1.20		FAILED EQUIPMENT INDICATOR	When illuminated continuously, or when not illuminated, stop train and inspect for failed equipment. Advise dispatcher reason for delay by first available means of communication.
9.1.21		FAILED EQUIPMENT INDICATOR	When flashing, no failed equipment has been detected.

DISTANT SIGNALS			
Rule	**Aspects**	**Name**	**Indication**
9.1.22		SLIDE FENCE INDICATOR	When illuminated continuously or when not illuminated, slide fence has been activated; proceed at restricted speed.
9.1.23		SLIDE FENCE INDICATOR	When flashing, slide fence has not been activated.
9.1.24		RESUME SPEED	End of slide fence restriction; resume speed.

GENERAL SIGN INSTRUCTIONS

In addition to Rule 9.1 of the General Code of Operating Rules, the following General Signal Instructions apply on Burlington Northern Santa Fe Railway:

- When a track intervenes to the right between a signal and the track governed, a stub post with a blue light will be attached to the right of the signal mast.
- When a track intervenes to the left between a signal and the track governed, a stub post with a blue light will be attached to the left of the signal mast.
- Dwarf signs will display the same aspects and indications as high signals.
- The following symbols are used in diagrams of signal aspects:

 To indicate a number plate

 To indicate flashing light

 To indicate color light signal head

 To indicate position of semaphore arm

 To indicate grade marker

ALL SUBDIVISIONS

1. Speed Restrictions

All speeds are subject to modification by speed restrictions indicated under Individual Subdivision Special Instructions.

Passenger trains will be governed by freight train speeds if passenger train speed is not specified under Individual Subdivision Special Instructions.

Unless defined differently in the Individual Subdivision Special Instructions, tons per operative brake (Tons/OB) is defined as the gross trailing tonnage of the train divided by the total number of cars having operative brakes. For purposes of this definition, each platform of multi-platform cars is considered one car.

To determine if train exceeds 100 tons per operative brake, add two zeros to the number of cars having operative brakes. If train has greater trailing tonnage than the resulting figure, train exceeds 100 tons per operative brake. Example: 85 cars with operative brakes plus two zeros equals 8500. An 85 car train with 9182 tons would exceed 8500 and hence would exceed 100 tons per operative brake.

Maximum Speeds Permitted–

Freight trains up to 100 Tons/OB	60 MPH.
Trains 100 Tons/OB and over	45 MPH.
Exception: This does not apply where " % " is shown with speed in Individual Subdivision Special Instruction 1(A).	
Trains handling empty cars, except when comprised entirely of passenger/commuter equipment	55 MPH.
Key Trains	50 MPH.
Trains moving in non signaled territory	49 MPH.
Trains moving against current of traffic	49 MPH.
Light locomotive consist or caboose hop	50 MPH.
Solid consist of military equipment	55 MPH.
Locomotives equipped with friction bearings	35 MPH.
On sidings	20 MPH.
Trains and engines through turnouts	10 MPH.
On tracks other than main tracks and sidings	10 MPH.
Within Mechanical department limits	5 MPH.
Movements on or off turntables	1 MPH.

Equipment	Main Line	Branch Line
Flat cars, empty, NP 580400–580739	50 MPH.	50 MPH.
OTTX Flatcars 90000–97955 (loaded or empty)	45 MPH.	45 MPH.
Gondolas: empty cars picked up enroute and not on conductors wheel report or work order	50 MPH.	50 MPH.
Gondolas: loaded and empty PC 598500 through 598999, CR 598500 through 598990 or SP 345000 through 345699	45 MPH.	45 MPH.
Gondolas: empty KCS 801011 through 802930	45 MPH.	45 MPH.
Bulkhead flat cars: empty cars picked up enroute and not on conductors wheel report or work order	45 MPH.	45 MPH.
Empty bulkhead wallboard flatcars: BN 616475 through 616674, CS 616375 through 616474 and SOU 115250 through 115274	45 MPH.	45 MPH.
Air dump cars, loaded	45 MPH.	45 MPH.
Clay Cars, RARW 3801–4199	45 MPH.	45 MPH.
Ore cars,		
Loaded	45 MPH.	20 MPH.
Empty	50 MPH.	20 MPH.
Exceptions: BN 98000–98150, BN 99000–99949, and BN 551000–551500 (No speed restrictions)		
Scale test cars	35 MPH.	25 MPH.

Exception: Scale test cars listed below have a minimum gross weight of 100,000 pounds and may move in any position in the train and at maximum authorized speed for which your train is qualified:

WWBX	199917	MP	15510	UP	900700
WWBX	199918	MP	15511	UP	903600

WWBX	199919	MP	15512	BN	979019-979024
MP	15507	UP	167579	BN	979026-979036

Ribbon rail cars, (loaded)	35 MPH.	25 MPH.
Exception: On curves of 6 degrees or more. (Locations of such curves to be furnished by train dispatcher.)	25 MPH.	25 MPH.
Ribbon rail cars, (empty)	45 MPH.	45 MPH.
Wedge plow or dozer, hauled in tow	35 MPH.	25 MPH.
Rotary plow, wrecking derrick, locomotive crane, pile driver, clamshell, shovel, Jordan spreader, hauled in tow	30 MPH.	25 MPH.

The following equipment when handled in trains will be handled on rear end of train only, and are subject to the following maximum speeds:

Kershaw	45 MPH.	45 MPH.
Plaser Machines	45 MPH.	45 MPH.
P 811	45 MPH.	45 MPH.
Loram	45 MPH.	45 MPH.

When moving coupled with maintenance of way tool cars they must remain coupled to such cars.

Locomotive cranes, wrecking derricks and other types of heavy work equipment must not be operated on any subdivision designated as a branch line unless authorized by dispatcher and roadmaster or covered by specific instructions.

ACFX tank cars 17451 through 17495	45 MPH.	45 MPH.
NATX tank cars 10841 through 10865	45 MPH.	45 MPH.

Tank cars:

DVLX 4001 through 4190 and the following UTLX cars:

76517	76742 through 76745	78287 through 78293
76539	76747	78326
76556	76748	78328 through 78333
76558	76750	78336 through 78340
76568	76751	78343
76595	78256 through 78269	78344
76649	78272	78347
76656	78274	78348
76696	78278	78350
76733	78281	78353
76736 through 76738	78285	

76736 through 76738 78285 ..... 40 MPH. 40 MPH.

EMPTY Schnabel type cars:

APWX 1004	GEX 40010, 80002, 80003
BBCX 1000	GPUX 100
CAPX 1001	HEPX 200
CEBX 100, 101	KWUX 10
CPOX 820	WECX 101, 102, 200-203, 301

CWEX 1016 ..... 40 MPH. 40 MPH.

All Schnabel cars listed above must be handled on or near the rear of trains not exceeding 100 cars in length, must not be handled in trains requiring pusher service and must not be humped or switched with motive power detached.

Hopper cars WFAX 84654 through 84700	45 MPH.	45 MPH.
Trains RSGV handling loaded sulphur cars	40 MPH.	40 MPH.
Trains GVRS handling empty sulphur cars	40 MPH.	40 MPH.
Flat cars loaded with track panels	35 MPH.	35 MPH.

1(A). Control of Harmonic Rocking on Jointed Rail-

Under certain conditions, operation of trains between 13 MPH and 21 MPH can cause derailments due to harmonic rocking of cars.Where specified by Individual Subdivision Special Instructions or general order, the following restrictions apply when operating on jointed rail:

Freight trains, other than coal trains, ore trains, or trains consisting entirely of empty equipment, which cannot maintain a minimum speed of 21 MPH, must reduce speed to not exceed 13 MPH until movement can again exceed 21 MPH.

1(B). Speed -Main Tracks

Unless otherwise restricted by Individual Subdivision Special Instructions, when authorized by Individual Subdivision Special Instruction 1 (A) by an asterisk (*) in the freight column, the maximum speed for freight trains is 70 MPH provided:

(1) Train does not contain empty car(s). Ten-pack cars, articulated double stack cars and cabooses are considered loads. Five-pack cars and conventional flatcars loaded with empty trailer(s), empty containers or container chassis are considered loads.
(2) Train does not exceed 8,500 feet.
(3) Train does not average more than 80 tons per operative brake. When calculating tons per operative brake for articulated cars, each two segments or units will be counted as one (1) car or operative brake, with any odd number being considered an additional car or operative brake; i.e., 5 unit TOFC or 5 unit double stack cars will be considered three (3) cars and three (3) operative brakes.
(4) Engineer can control speed to 70 MPH without use of air brakes.

(If unable to control speed at 70 MPH on long, descending grades, two additional attempts are allowed to control speed with dynamic brake at slower speeds before speed must be reduced to 55 MPH while negotiating descending grade.)

Exceptions:

Trains consisting entirely of intermodal equipment:
Same as above except train must not average more than 90 tons per operative brake under item (3).
Trains consisting entirely of double stack equipment:
Same as above except train must not average more than 105 tons per operative brake under item (3).
Note: Double stack exception does not apply on the following subdivisions: Newton, La Junta, Raton, Glorieta, Needles, Mojave, Bakersfield and Stockton.
Additionally, trains operating with solid double stack equipment only may use a maximum of 32 axles of dynamic braking per engine consist.

1(C). Speed Restrictions-Tonnage

Where indicated by Individual Subdivision Special Instruction 1 (A) by a pound sign (#) in the freight column, the maximum speed for freight trains is 45 MPH when:

(1) Train exceeds 10,000 feet; or
(2) Train averages 90 tons or more per operative brake.

When calculating tons per operative brake for articulated cars, each two segments or units will be counted as one (1) car or operative brake, with any odd number being considered an additional car or operative brake; i.e., 5 unit TOFC or 5 unit double stack cars will be considered three (3) cars and three (3) operative brakes.

1(D). Maximum Speed of Engines

Engines	MPH	When not Controlled From Leading Unit (MPH)
Amtrak	90*	45
Metrolink	90*	45
Metra	79*	45
All other classes	70	45

Exception: When the controlling locomotive of the train is a car body type or has comfort design cab and is in the backing position, maximum speed is 45 MPH.
*Engine without cars must not exceed 70 MPH.

2. Locomotive Restrictions

The number of powered axles in a locomotive consist must not exceed 36.

Hauled-In-Tow

The number of locomotives hauled-in-tow, regardless of placement in train, must not exceed two times the number of locomotives coupled for MU operation.

Locomotives not coupled to the head end, or helper consist, must have the Dead Engine Feature cut in and if possible be placed not more than 15 cars from the head end consist.

Alignment Control Couplers

Unless otherwise authorized, handle locomotives not equipped with alignment control couplers as follows:

Trains of 18 or more powered axles, pulling 5000 or more trailing tons, must:

- Have a locomotive with alignment control coupler next to the train.
- Not have two locomotives without alignment control couplers coupled to each other.

Locomotives not equipped with alignment control couplers are not restricted when handling trains with locomotive consists of less than 18 powered axles or trains less than 5000 trailing tons.

Unless stenciled on the locomotive, the following BN locomotives are not equipped with alignment control couplers:

5-585, 1000-1004, 1400-1438, 1966-1970, 6100-6237

Note: Some foreign line locomotives are not equipped with alignment control couplers.

2(A). Manned Helper Operations

Locomotives used in helper service must be equipped with alignment control couplers.

When helpers shove on a caboose, employees are prohibited from occupying that caboose.

Helpers must not shove on a caboose equipped with friction bearings.

Helper Placement–Unless Individual Subdivision Special Instructions or System Special Instruction 2(C) specify otherwise, the following placement restrictions apply:

Helpers of 12 powered axles, or less, may operate behind caboose.

Helpers of more than 12 powered axles must be cut into the train at a position that equals the tonnage rating of the helper consist. Train dispatcher will advise the conductor of the tonnage of the helpers, so the proper placement can be determined.

Helpers of 18 powered axles, may be used on loaded coal trains behind caboose or last car, only when lock blocks can be inserted in coupler pocket.

Not more than 28 powered axles can be cut into a train for helper service.

2(B). Locomotive Information Chart (BN engines)

Locomotive restrictions indicated in Item 2, Individual Subdivision Special Instructions, are based on locomotive axle count and, when necessary, locomotive weight. Locomotive Information Chart indicates maximum weight for each model. If actual weight cannot be determined, use weight shown in chart.

Locomotive Information Chart

Model	Axles	Horsepower	Maximum Weight (Pounds)
SW1	4	600	198,000
SW10	4	1000	250,000
SW12	4	1200	250,000
SW15	4	1500	262,000
MP15	4	1500	261,000
F9, F9-2	4	2000	241,000
E9	6	2400	338,000
GP5	4	1350	243,000
GP9	4	1750	259,000
GP10	4	1800	260,000
GP15, GP15-1	4	1500	258,000
GP18	4	1800	248,000
GP20	4	2000	261,000
GP35	4	2500	262,000
GP38, GP38-2	4	2000	285,000
GP39, GP39-2	4	2300	261,000
GP40, GP40-2	4	3000	278,000
GP50	4	3600	275,000
SD9 (by unit numbers)			
6100 - 6126	6	1750	346,000
6127 - 6237	6	1750	326,000
6240 - 6247	6	1750	368,000
SD38, SD38-2	6	2000	391,000
SD40, SD40-2	6	3000	420,000
SD42	6	3000	415,000
SD60M	6	3800	401,000
B30-7	4	3000	275,000
B32-8	4	3200	270,000

B39, B39-8	4	3900	280,000
C30-7	6	3000	417,000
U30-C	6	3000	411,000
SD70	6	4000	415,000

2(C). Helper Information/Locomotive Specifications (ATSF engines)

When helper engine is placed behind rear car of train, not more than 180,000 pounds of tractive effort will be used. Below is a list showing the weight, tractive effort and horsepower rating of units by class:

Exception: Loaded unit trains (coal, grain, potash) may use up to 350,000 pounds of tractive effort in helper service.

Class	Make	Type	Weight	Tractive Effort	Horse Power	Dynamic Brake***
90	EMD	SDFP45	399,000	68,006	3600	6ET
*100	EMD	GP60M	278,400	57,500	3800	4EF
**200	EMD	SD75M	394,000	109,000	4300	6EF
*325	EMD	GP60B	278,400	57,500	3800	4EF
*500	GE	B40-8W	288,000	69,200	4000	4EF
**600	GE	C44-9W	392,000	138,900	4400	6EF
**800	GE	C40-8W	394,200	108,600	4135	6EF
1200	MK	MK1200G	250,000	60,000	1200	No
1310	EMD	GP7	249,000	41,300	1500	No
1460	EMD	SWBLW	262,500	41,300	1500	No
1556	EMD	SD39	389,000	82,284	2500	6EF
2000	EMD	GP7	249,000	41,300	1500	No
2244	EMD	GP9	249,000	45,200	1750	No
2300	EMD	GP38	262,500	55,460	2000	4ET
2370	EMD	GP38-2	260,800	55,400	2000	No
2700	EMD	GP30	262,900	51,400	2500	4BT
2800	EMD	GP35	266,000	51,400	2500	4BT
3000	EMD	GP20	265,000	44,800	2000	4BT
3400	EMD	GP39-2	270,000	55,400	2300	4EF
3600	EMD	GP39-2	264,400	55,400	2300	4EF
3800	EMD	GP40X	264,400	62,685	3600	4EF
3810	EMD	GP50	271,663	64,200	3600	4EF
3840	EMD	GP50	273,120	64,200	3600	4EF
*4000	EMD	GP60	274,500	57,500	3800	4EF
5000	EMD	SD40	391,500	82,100	3000	6ET
5020	EMD	SD40-2	391,500	83,160	3000	6EF
5200	EMD	SD40-2	391,500	90,475	3000	6EF
5250	EMD	SDF40-2	388,000	83,100	3000	6EF
5300	EMD	SD45	391,500	72,286	3600	6ET
5500	EMD	SD45B	393,920	72,286	3600	6ET
5502	EMD	SD45B	392,860	82,100	3600	6EF
5510	EMD	SD45-2B	395,000	83,100	3600	6EF
5800	EMD	SD45-2	395,500	83,100	3600	6EF
5950	EMD	SDF45	395,000	71,290	3600	6ET
6350	GE	B23-7	268,000	60,400	2250	4EF
*7410	GE	B40-8	283,000	69,200	4000	4EF

Class	Make	Type	Weight	Tractive Effort	Horse Power	Dynamic Brake***
8153	GE	C30-7	392,500	91,500	3000	6EF
**8251	EMD	SD75M	394,000	109,000	4300	6EF
9500	GE	SF30C	391,500	91,500	3000	6EF

* For the purpose of calculating dynamic braking effort, units 100-162, 325-347, 500-582, 4000-4039 and 7410-7449 must be considered as having six axles.

** For the purpose of calculating dynamic braking effort, units 200-250, 600-699, 800-951 and 8251-8275 must be considered as having 8 axles.

*** Information relating to dynamic brake is designated as follows:
Number indicates number of axles.
Type is indicated by B-Basic, E-Extended Range.
System is indicated by F-Flat, T-Taper.

3. Equipment Restrictions

The following equipment must be placed next ahead of caboose or at rear of cabooseless trains, except in work trains, unless otherwise indicated in the individual subdivisions.

- Outfit cars, **EXCEPTION:** Univans may be placed anywhere in the train.
- Pile drivers
- Locomotive cranes
- Empty ribbon rail cars
- Rear end only cars
- Jordan spreaders
- Rotary snowplows
- Wedge plows
- Dozers.

Scale test cars must be placed ahead of caboose or, on cabooseless trains, ahead of the last car. **EXCEPTION**: BN 979019-979024 and BN 979026-979036 may be placed anywhere in the train.

Scale test cars must not be humped.

When pile drivers, cranes, derricks or similar equipment are being moved on their own wheels or on cars in a train, they must be properly loaded and secured. Booms must be properly secured and, when possible, boom must be trailing. Equipment must be inspected before being moved.

Spreaders and dozers being moved in trains must, when possible, be headed in the direction train is moving and wings must be properly secured.

DODX 40000-40100 are cars belonging to the Department of Defense. Handbrakes on these cars must not be used to control movement and must be applied from a ground position while car is standing.

Loaded ribbon rail cars must not be:

- Coupled to other cars except buffer cars. (Buffer cars will be placed ahead of and behind ribbon rail cars at welding plant).
- Handled in freight service with other cars unless authorized.
- Separated for maintenance or repairs unless under direct supervision of a roadmaster.

3(A). Multi-Platform and Stack Intermodal Cars

Unless otherwise indicated in the Individual Subdivision Special Instructions multi-platform stack intermodal cars are authorized for movement on tracks with weight limit of 177,000 pounds or more.

These cars must not be cut off in motion or struck by any car moving under its own momentum.

3(B). Rotary/Rapid Discharge Coal Cars

On the following sets of Rotary/Rapid Discharge coal cars, the dump door line air hoses, must be coupled or placed in proper receptacle when provided, prior to releasing the train for service:

- MCHX 30815-31044
- NSPX 90001-90240 & 90501-90744
- WCSX 12001-12123

Note: These are the cars that have the trainline on one side of the coupler and the dump door line on the other side, with both hoses being at end sill level.

3(C). Trough Cars-BN 552000 through BN 552022 (13 section articulated coal cars, 278 ft. long)

Speed restrictions-None (there may be restrictions on individual subdivisions based on gross weight of car and its axle equivalency).

Gross Weight of Trough Car	Axle Equivalency
855 tons	263,000 lb.
871 tons	268,000 lb.
884 tons	272,000 lb.
904 tons	278,000 lb.
917 tons	282,000 lb.
930 tons	286,000 lb.

Tons per operative brake- when empty, less than 100 tons O/B
when loaded, more than 100 tons O/B

Switching Restrictions-Trough cars cars must not be cut off in motion or struck by any car moving under its own momentum.

Coupling Speed Restrictions-Due to unique design and experimental nature of this equipment, when coupling to or coupling with **loaded** Trough Cars, maximum speed must not exceed 2 MPH. To comply with this speed, when coupling to or coupling with **loaded** Trough Cars, stop movement 10 to 20 feet short of a coupling, then proceed to couple cars.

Hand Brakes-(there are four hand brakes per Trough Car)

- All four hand brakes are accessible only from the left side of the Trough Car.
- Operate hand brakes only when car is stopped. Do not attempt to apply hand brake while car is moving.
- When hand brake is required, apply all four hand brakes on a car.
- When applying hand brakes because of grades, use the same required percentage of cars, rounded upward to the next **whole** car. For example: if there are 22 trough cars in a train, and the requirement is 10% of cars need hand brakes applied, then the requirement for hand brakes is 2.2 cars, rounded upward to 3 whole cars, so apply all four hand brakes on 3 trough cars.

Air cut-out cocks (there are 3 air cut-out cocks per Trough Car)

- All three air cut-out cocks are accessible only from left side of the trough car.
- Each air cut-out cock controls four trucks-two on each side of the control.
- To cut out air, pull up on rod end and pull out away from car-directions are on a decal above the air cut-out cock.

Dump door line air hoses

- The dump door line air hoses must be coupled between all trough cars, and must be coupled above train line air hoses.
- At front of train and rear of train, dump line air hoses must be secured so as not to drag on ground.
- Connect dump door air line hoses to locomotives only when at unloading facility (or when near unloading facility shortly before unloading).

4. Air Repeater Operation

Air repeater cars BNH 3-14, 20-29, and 30-35 must be operated at a position approximately 60% from the head-end.
EXAMPLE: In a 100 car train, the air repeater car will be the 60th car.

There are flashing lights on each end of the roof and two lights on either car side, at ground level. Flashing roof light and illuminated side light indicates which end of the car is cut in for repeater operation. The illuminated light, must be the light nearest the controlling locomotive.

If charging in the wrong direction, bring the brake pipe of the air car to zero PSI with an emergency application of the brakes. Then recharge in the normal manner.

Air repeater cars increase the brake pipe pressure by a fixed percentage. Higher brake pipe pressure at the rear of a train will be noticed with this arrangement. It is possible for the brake pipe pressure on the rear car to be greater than the brake pipe pressure setting of the controlling locomotive. This does not constitute an overcharge with the air repeater car operating.

If an air repeater car fails enroute, an automatic valve will operate to bypass the repeater equipment making it operate like any other car in the train. It is not necessary to do anything at the air repeater car. The air repeater car diesel engine contains antifreeze and draining of the engine is not required with engine shutdown.

If brakes do not release on the train when the air repeater rack is cut out from the bypass valve, it will be necessary to reduce the overcharged condition.

5. Car Restrictions

Cars that are either shorter than minimum length or are heavier than limits specified in Item 2 of the Individual Subdivision Special Instructions or in any of the following paragraphs are not permitted without authority of Division Superintendent or BNSF Clearance Bureau.

6 axle cars listed in Table 5A can weigh up to the indicated weights and still be in compliance with Item 2 of the Individual Subdivision Special Instructions.

Table 5A–

6 Axle Car Number Series	Maximum Gross Weight of 6 Axle Car If Item 2 Max. Gross Weight of Car Equals			
	143 Tons	138 Tons	136 Tons	134 Tons
KCS 700002–700053 CSXT 600908–600910 SOU 50016–50019 DODX 40000–40573	185 Tons	178 Tons	175 Tons	172 Tons
CN 672001–673001 CR 766062–766072,766074, 766145–766150 CSXT 600430 PC 766149	170 Tons	165 Tons	162 Tons	160 Tons
OTHERS	143 Tons	138 Tons	136 Tons	134 Tons

8 axle cars listed in Table 5B can weigh up to the indicated weights and still be in compliance with Item 2 of the Individual Subdivision Special Instructions.

Table 5B–

8 Axle Car Number Series	Maximum Gross Weight of 8 Axle Car If Item 2 Max. Gross Weight of Car Equals			
	143 Tons	138 Tons	136 Tons	134 Tons
ATSF 90001–90004,90006–90007, 90011–90014,90016 BAWX106–107 BN 631020–631021 CN 674100–674102,675000–675001 CNW 48017–48019 CR 766078,766082–766084,766093, 766164–766172 EL 7600–7601 NS 185522,185523,185550–185553 NW 70100–70102,70104–70112 SOU 50030–50032 UP 50002–50003 QTTX 130500–130501,130550–130556, 130600–130604,130700–130703 VAPX 20000 WP 1601–1602 WPX 100	220 Tons	213 Tons	205 Tons	198 Tons
ATSF 90005,90015 BLE 4606–4610 CN 67002,674000–674003 CNW 48003 CP 309965–309970 CR 766009–766014,766073,766075, 766086–766088,766151, 766164–766172,766225–766227 CSXT 600451–600473,600510–600512 600514,600531 NS 185100–185108 NW 202905,202907 PC 766070–766071,766090–766091 766152,766166–766168 SBD 600413 SOU 50088–50089,50092–50096,250050 SP 500605–500606 QTTX 131000–131005,131025–131039	190 Tons	183 Tons	178 Tons	170 Tons
OTHERS	143 Tons	138 Tons	136 Tons	134 Tons

Actual car weight may exceed the maximums by up to 1 ton, due to weighing tolerances.
Cars weighing between 134.01 and 143 tons must be at least 52 feet long.
Cars weighing between 110.01 and 134 tons must be at least 44 feet long.
Cars weighing between 89.01 and 110 tons must be at least 38 feet long.
Cars weighing 89 tons or less must be at least 35 feet long.
Ore cars weighing between 110.01 and 134 tons must be at least 35 feet long.
Ore cars weighing 110 tons or less must be at least 24 feet long.

Weight and length restrictions indicated in this section and in Item 2 of the Individual Subdivision Special Instructions apply to four axle cars, do not apply to articulated cars such as trough cars or multiple unit double stack well cars.

6. Instructions to Conductors and Switch Foreman–

6(A). Crews reporting to Ft. Worth Customer Support Center

Wheel Report–

A wheel report is a printed list of cars in a train that provides car initial and number, standing order of cars, destinations, station blocks, and other car and train information necessary to the train crew. This is the conductor's working list for his train (cars to be set out, spotted, delivered, etc. enroute to the final destination of the train or crew). Other types of printed switch lists may be used as a wheel report.

Also, a wheel report can be made by using the BNSF printed form entitled "TRAIN LIST AND WHEEL REPORT", used by conductors and switch foremen, by adding car numbers, car movement activity, and train information whenever other printed wheel reports or switch lists are not available.

Switch Lists-

A switch list is a track, switch, spot or pull list that shows car initial and numbers, car locations in YMS + S or CARS inventory, switching instructions (spot, pull, move, deliver), and other car and customer information (destination stations, spins numbers, car status, etc.). Switch lists that are provided and used for performing and documenting industry switching may be used in lieu of a wheel report.

Wheel Report and Switch List Preparations-

Wheel reports are required by conductors and switch foremen when setting out or moving cars **outside** of, and between terminals and stations. Moving, delivering, spotting or pulling cars **within** a terminal or station should be documented on a switch list or noted on a wheel report.

Trains that have a wheel report and are merely setting out or picking up at a station must document the required information (below) on their wheel report. The actual spotting or pulling of those car(s) is a separate activity and must be documented in addition to the initial set out. For example, if a train sets out at a minor station, the required information (below) is documented on the wheel report. If those same cars are spotted to an industry, the required spotting information must be entered either on the wheel report or switch list (if one has been provided). Therefore, a **set out** activity must be recorded on the wheel report AND a **spot** activity must be shown on either the wheel report or switch list.

If a wheel report is required and/or a switch list is used, the following information must be documented by the conductor or switch foreman:

Cars Set Out-

- Exact location including station number, track name or SPINS, and location of track (E or W position).
- Time and date of set out.

Cars Spotted-

- Exact location including station number, track name or SPINS, and location of track (E or W position).
- Spot time and date.

Cars Pulled-

- Date and time that car was pulled. If unable to pull for whatever reason, document date and time that an attempt was made to pull the car and the reason it couldn't be pulled, i.e. broken rail, blue flag, locked gate, etc. When this occurs conductors and switchmen should make the following notation on their list: "Could not pull because" _____ (blue flag, auto on track, requested by supervisor _____, etc.)

Cars Moved-

- Location where cars were picked up showing station number, track name or SPINS, time and date.
- Location where cars were set out. (See "Cars Set Out" above)

Cars Interchanged-

- Delivery time and date (if different than "Set Out" time and date), and track name or SPINS, if applicable.

Note-Cars Moved <u>WITHIN</u> Terminals and Stations Need Only: Track name or SPINS where cars were moved, time and date.

Note-Cars Interchanged <u>WITHIN</u> Terminals and Stations Need Only: Delivery time, date and track name or SPINS, if applicable.

All Locations-

If unable to set out, spot, pull, deliver or move cars, indicate where cars were placed or left, time, date, and the specific reason or conditions which prevented it.

Some valid reasons for exceptions are:

- Request by BNSF personnel (explain)
- Power overweight or axle restrictions
- Derailment (explain)
- Track or switch out of service (explain)
- Unsafe conditions (explain)
- Track full, unable to spot
- Per customer request (explain)
- Customer gates locked/doors closed
- Customer reject (explain)
- Crew short of time
- Track obstructed (explain)

If an industry supervisor gives instructions not to pull a car, document the supervisor's name and, if an additional list of switching instructions is provided, retain that list and fax it and all other switch lists, wheel and delay reports.

If an industry supervisor requests work that does not show on a list, document by track name or SPINS where cars moved from and to, times and the name of the supervisor requesting move.

Wheel reports and switch lists must be submitted to a clerk or agent at the end of each tour of duty. If a station or terminal has transferred freight and yard office functions to a centralized agency center, for example, Fort Worth Customer Support Center, conductors and switch foremen must fax all accurately documented wheel reports and switch lists to that Customer Support Center. **After faxing wheel reports and switch lists, the conductor or switch foreman must call the designated clerk or specialist that provides service for your respective division or terminal in order to verify that all lists have been received, are legible and have been completed properly.** This information is necessary to maintain expedient service to our customers, maintain proper records for car movement, and to support billing charges due BNSF.

Signature indicating that conductor or switch foreman has performed the work and has entered and completed the information, as required above, on wheel reports and/or switch lists (including work that was left undone).

Conductors are required to submit train delay report **with their timeslip** whenever operating outside the switching limits of their headquarters (also fax train delay report to designated centralized agency center).

Conductors and switch foremen who have been assigned a cellular phone are encouraged and expected to call the station agent or clerk that provides service for your respective division, or the CSC specialist at Fort Worth anytime there are questions or problems with car set outs, pickups, deliveries, movements or switch lists.

6(B). Crews Reporting to CQS Topeka

Printed work orders issued for trains and switch jobs list the work scheduled for that tour of duty. Conductors and engine foremen are responsible for documenting and reporting all scheduled work performed and for noting any exceptions.

Any unscheduled work performed must also be reported on the Supplemental Work Order form.

Work orders include the following documents:

- Work Order of Entire Train
- Train List and Profile
- Hazardous Manifest (if train contains hazardous materials)
- FRA 215.9 Mechanical Defective Cars List (if applicable)
- Work Order for Each Station
- Track List of Each Track to be Worked
- Supplemental Work Order Form

Scheduled work is printed on a work order for each station where work is to be performed. Work performed should be reported according to outstanding instructions.

Reporting Scheduled Work

Upon arrival or departure at each station where work is to be performed, enter day and time you arrived or departed that station, as applicable, in the fields provided at the top of the work order.

Upon completion of work at a station, indicate how work was reported in the fields provided at the bottom of the work order. Enter date and time reported, then sign the work order.

Setouts And Switching Within Station

Enter time car(s) set out or moved in "HHMM" field. Enter track number in "LEFT AT LOCATN" field if car left on yard track or siding. Enter interchange railroad's reporting marks in "LEFT AT LOCATN" field if car is interchanged to another road. Enter zone-track-spot preceded by "S" in "LEFT AT LOCATN" field if car is set for loading or unloading. If car left on industry track and NOT set for loading or unloading, see "REPORTING EXCEPTIONS" under "Cars Left On Industry Track Not Placed (OTNP, OTCC)" for proper marking of list.

Pickups

Enter time picked up in "HHMM" field. Enter station name where cars are to be left in "LEFT AT LOCATN" field. In space immediately below car line, indicate where car(s) is placed in train by showing "HE" for head end pick up, "RE" for rear end pickup. When filling behind cars already on train, enter "FB" and the init/number of the car the pickup will follow.

Reporting Exceptions

Setout (Not at Location Indicated)

Enter setout time in "HHMM" field. Enter station name where cars were setout in "LEFTAT LOCATN" field. In space immediately below car line, indicate track where cars setout.

Cars Left on Industry Track Not Placed (OTNP, OTCC)

Enter time car setout in "HHMM" field. Enter left at zone-track number only, followed by "NP" to indicate car left on any industry track BUT not placed for loading or unloading due to customer's inability to accept car. Enter left at zone-track number only, followed by "CC" to indicate car left on any industry track but not placed for loading or unloading due to carrier's convenience. In space immediately below car line, enter reason car(s) was not spotted.

Work Not Done

Enter "ND" in the "LEFT AT LOCATN" field. In space immediately below car line, enter reason for not completing the work as instructed on the work order.

Unscheduled Work (Supplemental Work Orders)

Any work performed that is not listed on the printed work order should be reported on a Supplemental Work Order form. Any time this form is used, you must enter train symbol and your signature in the space provided.

Setout

If a car is setout, enter date, time, car initials/number, station where track is located and track number. If placing a car on an industry track but not spotting it, indicate zone-track number only, followed by "NP" or "CC". If spotting a car, indicate the zone-track spot number preceded by "S".

Pickup

When a car is picked up, enter date, time, car initials/number, station where car is located and where being taken. Also, indicate in the "REMARK" field where car(s) is placed in train by showing "HE" for head end pickup, "RE" for rear end pickup. When filling behind cars already on train, enter "FB" and the init/number of the car the pickup will follow.

Pull

If car is pulled from industry spot and left on a local yard track, enter date, time, car initials/number, station where car located and track where was left.

Spotting Car

If a car is spotted on an industry track, enter date, time, car initials/number, station where car located and zone-track-spot where car placed preceded by "S".

7. Dimensional and Special Shipment Restrictions

- **a.** All employees involved in handling dimensional or special shipments must be familiar with and are governed by these instructions.
- **b.** Any dimensional and/or oversize car or special shipment must be accompanied by a movement authorization message issued by BNSF Clearance Bureau or by track bulletin.

c. Before a dimensional or special shipment can be moved in a train, yard forces or employee in charge of station where no yard forces on duty, must obtain permission from the train dispatcher. This does not relieve conductor from complying with Rule 1.47 of the General Code of Operating Rules. When yard supervisors are notified of expected arrival of wide cars, precautions must be taken to safeguard employees in yard.

d. Before a dimensional shipment is picked up on line, conductor must obtain permission from the train dispatcher. When dimensional or special shipment is set out on line, conductor must notify train dispatcher as soon as possible.

e. Train dispatcher must issue appropriate track warrant, track bulletin or message when dimensional shipment restricts opposing train and confirm message received.

f. Train with dimensional shipment must not pass or be passed by a train in the same direction unless authorized by the train dispatcher or proper safeguards taken.

g. Within or when destined for the state of California, and train room permits, they shall be blocked together in one place and trained at least five cars distant from both caboose and engine.

h. Employees are prohibited from riding excessive dimension cars.

i. Following code words are authorized for use involving movement of dimensional or special shipments, and when so used in movement authorization message, trainmen, enginemen and yard forces will be governed by restriction indicated.

RESTRICTIONS APPLICABLE TO CODE WORDS ALPHA THROUGH MIKE INCLUSIVE

Handle cautiously through yards.

When load is handled through turnouts and crossovers, keep adjacent tracks near these turnouts and crossovers clear of other on-track equipment.

CODE	RESTRICTION APPLICABLE
ALPHA	LOAD WIDTH 11 ft. 1 in. to 11 ft. 8 in. INCLUSIVE Load must not pass or be passed by loads over 12 ft. 6 in. wide on 13 ft. track centers and loads over 13 ft. wide on 13 ft. 6 in. track centers. Observe track center restrictions for 11 ft. 6 in. wide loads.
BRAVO	LOAD WIDTH 11 ft. 9 in. to 12 ft. 1 in. INCLUSIVE Load must not pass or be passed by loads over 12 ft. wide on 13 ft. track centers and loads over 13 ft. wide on 13 ft. 6 in. track centers. Observe track center restrictions for 12 ft. wide loads.
CHARLIE	LOAD WIDTH 12 ft. 2 in. to 12 ft. 5 in. INCLUSIVE Load must not pass or be passed by loads over 11 ft. 8 in.wide on 13 ft. track centers, loads over 12 ft. 8 in. wide on13 ft. 6 in. track centers and loads over 13 ft. wide on 14 ft. track centers. Observe track center restrictions for 12 ft. 4 in. wide loads.
DELTA	LOAD WIDTH 12 ft. 6 in. to 12 ft. 9 in. INCLUSIVE Load must not pass or be passed by loads over 11 ft. 4 in.wide on 13 ft. track centers, loads over 12 ft. 4 in. wide on 13 ft. 6 in. track centers and loads over 13 ft. wide on 14 ft. track centers. Observe track center restrictions for 12 ft. 8 in. wide loads.
ECHO	LOAD WIDTH 12 ft. 10 in. to 13 ft. 2 in. INCLUSIVE Load must not pass or be passed by loads over 11 ft. wide on 13 ft. track centers, loads over 12 ft. wide on 13 ft. 6 in. track centers and loads over 13 ft. wide on 14 ft. track centers. Observe track center restrictions for 13 ft. wide loads.
FOXTROT	LOAD WIDTH 13 ft. 3 in. to 13 ft. 6 in. INCLUSIVE Load must not pass or be passed by loads over 10 ft. 8 in.wide on 13 ft. track centers, loads over 11 ft. 8 in. wide on13 ft. 6 in. track centers and loads over 12 ft. 4 in. wide on14 ft. track centers. Observe track center restrictions for 13 ft. 4 in. wide loads.
GOLF	LOAD WIDTH 13 ft. 7 in. to 13 ft. 9 in. INCLUSIVE Load must not pass or be passed by loads over 10 ft. 4 in.wide on 13 ft. track centers, loads over 11 ft. 4 in. wide on 13 ft. 6 in. track centers and loads over 12 ft. 4 in. wide on 14 ft. track centers. Observe track center restrictions for 13 ft. 8 in. wide loads.

CODE	RESTRICTION APPLICABLE
HOTEL	Reduce speed to 5 MPH or less when passing or meeting moving trains on adjacent tracks. Normal speed may be resumed if other train has stopped.
INDIA	Reduce speed to 5 MPH or less when passing or meeting moving trains on curved portion of adjacent tracks. Normal speed may be resumed if other train has stopped.
JULIET	Reduce speed to 5 MPH or less when meeting trains or cars on adjacent tracks.Observe movement of load and be prepared to stop if necessary. Trains passing or meeting this load must not exceed 5 MPH.
KILOGRAM	Reduce speed to 5 MPH or less when meeting trains or cars on curved portion of adjacent tracks. Observe the movement of load and be prepared to stop if necessary. Trains passing or meeting this load must not exceed 5 MPH.
LIMA	Load may not clear equipment on adjacent tracks. Adjacent tracks must be clear when necessary and possible. Passing or meeting is permitted only if equipment on adjacent track has stopped and the oversize load has speed reduced to 5 MPH or less. If oversize load cannot be moved past the other train, then other train may attempt to move by such load at 5 MPH or less. Observe the movement of the load at all times and be prepared to stop instantly and arrange to pass safely by switching, if necessary.
MIKE	Load may not clear equipment on curved portion of,adjacent tracks. Adjacent tracks must be kept clear when necessary and possible. Passing or meeting is permitted only if equipment on adjacent track has stopped and the oversize load has speed reduced to 5 MPH or less. If oversize load cannot be moved past the other train, then other train may attempt to move by such load at 5 MPH or less. Observe the movement of the load at all times and be prepared to stop instantly and arrange to pass safely by switching, if necessary.
NOVEMBER	When passing other loads carrying NOVEMBER restriction, do not pass on curved part of adjacent tracks.
OSCAR	Do not pass loads wider than _____ on adjacent parallel tracks.
PAPA	Stop and proceed on hand signals only while watching for very close side or overhead clearance to bridge or structure.
QUEBEC	Reduce speed not to exceed 13 MPH.
ROMEO	Give careful handling and keep adjacent track clear at turnouts, crossovers and other sharp curves in yard, interchange or industry tracks. Load may, or may not, clear man on side of car or engine when on adjacent track. Employees on train handling and other trains involved should be notified.
SANDWICH	The above restrictions apply to load(s) of wire mesh securely loaded and fastened down to car so that load cannot shift and exceed loaded measurements given above.
TANGO	Due to extreme high valuation, arrange for proper policing in transit. This shipment must not be humped, switched with motive power detached, or allowed to run free. Do not kick other cars against this shipment.
UNIFORM	Shipment urgently required at destination. Give best handling consistent with safety and restrictions. Do not set out if safe to move.
VICTOR	This shipment must not be detoured or rerouted without further clearances.
WHISKEY	No further restrictions necessary, however, due to nature of shipment, handle with extreme care through all yards, turnouts, switches and at locations where there are close track centers. Protect against other wide loads and equipment on adjacent tracks. Attach copy of restrictions to waybill. Post connecting division. Advise yard forces and train and engine crews handling.

8. Trackside Failed Equipment Detectors (FED)

8(A). Description

Failed Equipment Detectors (FED) are devices that inspect passing trains for defects such as:

- Overheated journal bearings
- Hot wheels
- Dragging equipment

Individual Subdivision Special Instructions identify the following:

- Detector location
- Shifted Load
- Dragging Equipment Only Detectors (DED)
- Radio Tone Only Detectors
- Detectors that protect bridges, tunnels, or other structures
- Detectors that inspect trains moving only in specified direction

When a shifted load or dragging equipment detector is actuated at a point where an adjacent main track or controlled siding may be obstructed, crew must provide protection as prescribed by Rule 6.23. (See Rule 6.29.2)

Note: If direction is not specified, FED equipment inspects trains moving in both directions.

8(B). Detector Message and Radio Tone

Radio Tone

A four (4) second radio tone sounds or message received "you have a defect" when a defect is detected by an FED or when the FED experiences an "Integrity Failure" or "System Failure".

Note: An "Integrity Failure" or "System Failure" message indicates a fault within the system that may interfere with a complete inspection of the train.

When a radio tone is received or message received "you have a defect" from an FED, immediately reduce train speed to less than 30 MPH utilizing train handling methods that minimize in-train-forces.

Detector Message

The detector message is transmitted by radio after the entire train passes the detector.

The detector message may include multiple alarm messages.

The detector message is not complete until either "Out" or "End of Transmission" is received or at some locations message is repeated except "No Defect" message may only be stated once.

Some FED equipment is capable of transmitting axle count and/or speed as part of the detector message.

Train Approaching Detector

Except in emergency, when an approaching train is within 150 feet of an FED do not make a radio transmission until the entire train has passed.

If no radio message is transmitted, or if no message is received, train may proceed at prescribed speed and must be observed closely enroute. Any failure of radio transmission must be reported to train dispatcher.

8(C). Detector Message and Train Crew Action

Use the following table to determine crew member requirements when a detector alarm message is received.

Detector Message	Train Crew Action	Additional Instructions
"... No Defects." or "...Train too slow" with no additional alarm message(s).	1. Proceed	None, unless FED equipment protects bridge, tunnel, or other structure.
"...Integrity failure" or "System failure" with no additional alarm messages(s).	1. Train may proceed unless other messages require inspection.	Report "Integrity failure" or "System failure" message to the train dispatcher. If FED equipment protects bridge, tunnel, or other structure, additional train crew actions are required.
When FED equipment protects bridge, tunnel, or other structure and message is: "...Integrity failure" or "System failure." "...Train too slow." or Track bulletin or track warrant states that FED equipment is out of service.	1. As soon as a radio tone is received, immediately reduce train speed to less than 30 MPH. 2. Stop. Inspect both sides or entire train before reaching bridge, tunnel, or structure being protected.	Report "Integrity failure" or "System failure" message to the train dispatcher.
"..First hot box right/left side axle XXX." "First dragging equipment near axle XXX." "First hot wheel right/left side from axle XXX to axle XXX." or Detector alarm message(s) followed by "...Integrity failure" or "System failure"	1. As soon as a radio tone is received, immediately reduce train speed to less than 30 MPH. 2. Stop the train 3. Inspect the indicated axle. 4. If no defect is found, inspect 12 axles either side of the indicated axle(s).	Detector alarm message may identify more than one defect. Inspect train for all reported defects before proceeding.
"..Excessive alarms." Axle count varies by more than 16 axles. Speed transmitted varies by more than 10 MPH from actual train speed. Detector alarm message does not include axle designation. or No message or incomplete message is transmitted.	1. As soon as a radio tone is received, immediately reduce train speed to less than 30 MPH. 2. Stop and inspect both sides of entire train.	Note: Crew member must receive "Out", "End of Transmission", or hear message is repeated before message is complete. Verify that the marker or EOT device is on the rear car.

8(D). Radio Tone Only Detector locations are identified in the Individual Subdivision Special Instructions. They are used to detect dragging equipment only and communicate by radio tone. No voiced messages are announced.

Use the following table to determine crew member requirements when passing Radio Tone Only Detectors.

Detector Message	Train Crew Action	Additional Instructions
Intermittent Tone immediately after train has passed detector.	1.Proceed. No dragging equipment has been detected.	None.
Continuous tone while passing detector or No tone after train has passed detector.	1. Stop. Inspect both sides of entire train for dragging equipment.	None.

8(E). Train Inspection

When alarm message requires inspection, inspect the side of the train in the message. The side identified is based on the direction of train movement.

Determine the location of the indicated axle by physically counting axles from the head end of the train, including locomotive axles. Do not depend on wheel report information for correct axle count.

When alarm message requires, inspect indicated axle(s). If inspection does not reveal a defect, inspect 12 axles forward and 12 axles to the rear of the indicated axle.

If a train receives 4 hot wheel alarms, 4 hotbox alarms, 2 or more dragging equipment alarms, 2 wide or high load alarms on 'light beam' shifted load detectors, or one wide or high load alarm on all other shifted load detectors, remainder of train must be inspected for additional defects.

Dragging Equipment Inspection

When a dragging equipment alarm message is received, make a walking (trackside) inspection of the train until the inspection is complete or until an obstruction (bridge without a walkway) prevents further inspection. When obstruction prevents completion of inspection, move train at no more than 5 MPH to complete the inspection per Rule 6.29.2, as amended.

Overheated Equipment Inspection

When an overheated equipment alarm message is received, follow this procedure to inspect equipment:

- Crew member positioned on the ground must count axles.
- Move train at no more than 10 MPH until the indicated axle is near the crew member or until inspection is complete.

Freight Trains

If no defect is found, train may continue, but crew members must closely observe indicated equipment for the next 25 miles or until the next inspection by hot bearing detector.

Exception: If indicated axle is on a loaded placarded car containing hazardous material and no defect is found during the inspection, set out the loaded placarded car. If over heated journal is indicated by a hot box detector on a non-placarded car in a key train by a hot box detector, but a visual inspection fails to confirm evidence of an overheated journal, the train must not exceed 30 MPH until it has been checked by the next hot box detector.

Passenger Train

If no defect is found after inspecting 12 axles forward and 12 axles to the rear of the indicated axle, inspect both sides of the entire train.

If no defect is found, train may continue, but crew members must closely observe indicated equipment for the next 25 miles or until the next inspection by hot bearing detector.

Exception: Amtrak Trains:

When the same axle actuates a second or subsequent wayside hot box detector, and no hot axle bearing or other defect which may have caused the actuation(s) (e.g., hot traction motor bearing, sticking brakes, etc.) is found after the prescribed inspections, the following actions will be taken:

1. The train will not exceed 30 MPH for the next five (5) miles.
2. The train will be stopped at that point and all bearings which activated the detector(s) will be reexamined. Equipment ahead of and behind the suspected axle(s) need not be reexamined during this 5-mile inspection.
3. If any apparent increase in bearing temperature is noted during the 5-mile reinspection, the car will be set out at the first available point.
4. If no hot bearing is found during the 5-mile reinspection, the Dispatcher will be notified, and the train may proceed to the next point where railroad mechanical personnel are available to inspect the car and authorize further movement or direct the car to be set out. If any station stops are made before the mechanical inspection point, the crew will inspect the car at such locations.

When a train actuates a wayside hot box detector before a crew change location, the relieving crew will be advised of the equipment that activated the detector so that they can inspect the car and follow the above procedure if the equipment actuates a subsequent detector enroute.

8(F). Testing Bearing Temperature

Use a heat indicating crayon, or hand held infrared device to test bearing temperature.

Test bearing temperature by stroking the heat indicating crayon on the bearing cup. A liquid smear will remain on an overheated bearing.

When ambient temperature is 32 degrees Fahrenheit or above, use a 200 degree Fahrenheit heat indicating crayon to test bearing temperature.

When ambient temperature is below 32 degrees Fahrenheit, use a 163 degree Fahrenheit heat indicating crayon to test bearing temperature.

If a heat indicating crayon, or hand held infrared device is not available, carefully pass your hand near the bearing without touching it. If a bearing is radiating more heat than the others, it is overheated.

Use crayon marker to write date and letter "X" above each journal indicated or found to be overheated and the date and letter "W" above each wheel indicated or found to be defective or overheated if the car is set out or remains in train.

Set out equipment with overheated bearing.

If it is safe to move equipment, set out any car with an overheated bearing at a location accessible to repair personnel.

8(G). Consecutive Alarm Messages

If the same equipment is indicated by 2 successive hot bearing alarm messages, set out the indicated equipment.

Note: Do not include Dragging Equipment Only Detectors (DED) when counting successive FED equipment inspections.

EXCEPTION: Train crew must request and be governed by instructions from the dispatcher concerning further handling of Ten-Pack equipment after second detector stop.

8(H). Indicating on Locomotive or Caboose

When unable to locate a defect indicated on a locomotive or caboose, notify the following:

- Connecting crew members
- Mechanical personnel
- Supervisor

Do not set out a caboose with a generator belt attached to the indicated axle unless a hot bearing, hot wheel or dragging equipment is found.

8(I). Special Conditions

When a hot bearing is found within 25 miles of FED equipment, a crew member must notify the train dispatcher. The train dispatcher must notify the signal maintainer and request the FED equipment be inspected.

When blowing or swirling snow conditions may prevent detectors from making a proper inspection, crew members must reduce train speed to minimize this condition.

9. Amtrak Instructions

Equipment: Unless otherwise provided, equipment that cannot be safely operated at maximum speed must be set out at first available location unless train can arrive final destination in less time than would be required to make the set out.

Maximum speed for freight locomotives in Amtrak service is 70 MPH.

Movement with locomotives between cars is prohibited.

Amtrak crews being relieved or helped by BNSF crews must handle all 480 volt AC power and set up Amtrak locomotives in the trail position. When BNSF crew relieves or helps an Amtrak crew, a freight locomotive must be used to handle Amtrak trains. The speed in which the train will operate, is the maximum speed allowed on that territory for freight train service. BNSF crews are prohibited from handling, adjusting or performing work between or under cars when Head End Power (HEP) 480 volt AC is energized.

Departure from originating station with HEP cables short looped is prohibited.

In the event of HEP failure, crew members must determine if train may be handled safely and every effort made to advance train to the next siding or scheduled stop before repairs are made.

All HEP cables must be secured with approved tie down grommets.

Air hoses and HEP cables must be secured no less than 4 inches above top of rail.

Double stretch is required after pick up or set out of cars or locomotives.

Required hand tools and supplies must be available on locomotive.

Train garbage/refuse to be off loaded into FDA approved containers.

Dumping Toilets

Except when discharged into appropriate container, dumping of toilets from Amtrak trains is prohibited while:

a. Passing through limits of Track Bulletin Form B.
b. In Nelson Bennett, Seattle, Everett, Cascade and Flathead tunnels.

Train and engine crews will coordinate their efforts to ensure compliance. Train crews are responsible for notification of on board personnel.

Speed Sensor Override Switch must not be placed in DUMP BELOW 25 MPH position except when an employee is in attendance.

Delay Reports

Prior to tieup, Engineer or Conductor must furnish train dispatcher office with official delay report. Such delay reports:

Will indicate all time lost based on station dwell times and best possible run times.

Will show reason for delay over dwell times and all other time lost, ie. passengers, baggage, slow order, hot/cold weather restriction, locomotive malfunctions, etc.

Will include car/locomotive initial and number, axle and journal if applicable, reason for inspection and defect, if any found.

Will indicate number of group passengers entraining/detraining with group name and reservation number.

Will indicate number of passengers entrained/detrained at other than final ticketed destination for alternate service.

Will include SD relief numbers authorizing "hold" or "delay".

10. Storage of Cars Within Yard Limits Non-Signaled Territory

Within yard limits in non-signaled territory, the main track must not be used as a storage track except in case of emergency. When it becomes necessary to leave cars on main track in such territory, they must be protected by track warrant or track bulletin. This does not modify requirements of Rule 6.13.

11. Commodities Insulating Track In CTC And ABS

Employees should be alert for insulating commodities such as clay, chips, oil, etc., on top of rails. This condition could possibly insulate the track and cause loss of train shunt. Such conditions should be promptly reported and trains protected per rules while in CTC and ABS territory.

12. Turnouts Equipped with Two Switch Machines (Moveable Point Frogs)-

Locations where turnouts are equipped with two switch machines will be identified under Individual Subdivision Special Instructions.

When dual control switches equipped with two switch machines are operated by hand, the switch machine which operates the switch points and the switch machine which operates the moveable point frog must both be placed in hand operation.

When turnouts are equipped with crank operated machines the hand crank must be turned an additional 10 revolutions after the switch points are in the desired position to insure sufficient closure tension at the switch points.

Rule 9.13.1 applies at all locations where turnouts are equipped with two switch machines (moveable point frogs).

13. In Effect on Burlington Northern Santa Fe Railway

- General Code of Operating Rules, THIRD EDITION, effective April 10, 1994. Page 15-14 of the General Code of Operating Rules, Third Edition, may be missing due to a printing error. Therefore all employees governed by the GCOR must replace page 15-13 with reprinted pages 15-13 and 15-14 in order to have a complete rule book.
- Air Brake and Train Handling Rules, effective August 1, 1996.
- Train Dispatcher's Manual, effective April 10, 1994.
- Operator's Manual, effective April 10, 1994.
- Maintenance of Way Operating Rules, effective August 1,1994.
- Safety Rules and General Responsibilities for all Employees, effective January 31, 1996.
- 1993 Emergency Response Guidebook, Form RSPA P 5800.6.
- Hazardous Material Handling Instructions, Form 51570 4-94
- Canadian Rail Operating Rules 1990 (for use in Canada only)
- Transport Canada Dangerous Goods Initial Emergency Response Guide 1992 (for use in Canada only)
- Rules for the Protection of Track Units and Track Work 1990 (for use in Canada only)

14. General Code of Operating Rules Changes and Additions

The following rules apply only on Burlington Northern Santa Fe:

Rule 1.5.1 Motor Vehicle Driving Records-new rule added:

Employees certified as locomotive engineers, whatever class of service, must report convictions for:

- Operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance.
- Refusal to undergo such testing when a law enforcement official seeks to find out whether a person is operating under the influence of alcohol or a controlled substance.

An employee must report any conviction to an employee assistance representative no later than the end of the first business day immediately following the day that the employee received notice of the conviction.

Rule 1.14 Employee Jurisdiction-first bullet point is amended to read:

- Safety rule, air brake and train handling rules, and hazardous material instructions of the railroad they are employed by.

Rule 1.17 B. Exceeding the Law-add as last sentence:
Except as provided by this paragraph, employees are then relieved of all duties.

Rule 1.26 Gratuities-second sentence is changed to read:

Employees must not accept gifts or rewards from customers, suppliers, or contractors of the railroad unless authorized by the proper manager.

Rule 1.30 Riding Engine-the following paragraph is added:
In conductor only train operations during over the road movements the conductor will occupy the controlling locomotive.

Rule 1.33 Inspection of Freight Cars-the last paragraph that reads, "A freight car with three bad order tags indicating that the car is safe to move may be moved to the nearest car repair point. The conductor will remove one bad order tag from the side with two tags. The conductor will use this written information from the tag to inform other crew members of the restriction."
Is changed to read:

Freight car with bad order tags indicating that car is safe to move may be handled to nearest repair point.

Rule 2.3 Repetition–change the first bullet to read:

- Concerns yard switching operations.

Rule 2.17 Radio Testing–the following paragraph is added:

All road trains must have an operable radio in the controlling locomotive. If the radio should fail enroute, the locomotive may continue as the controlling locomotive only if no other locomotive is available to be picked up or switched to the controlling position, and then only to the next radio repair facility.

Rule 5.4.3 Display of Yellow–Red Flag–

Item 2b which reads, "The rear of the train has passed a green flag" is cancelled.

The following paragraph is added:

Green flags must not be placed to release a train from the requirements of a yellow–red flag.

Rule 5.4.5 Display of Green Flag–is changed to read:

A green flag indicates the end of a speed restriction. If a series of locations requires reduced speeds, the green flags could overlap yellow flags. When this is the case, employees must:

Place a yellow flag before each speed restriction.

Place a green flag at the end of the last speed restriction.

Green flags must not be placed to release a trian from the requirements of a yellow–red flag.

Rule 5.5 - following paragraphs are added:

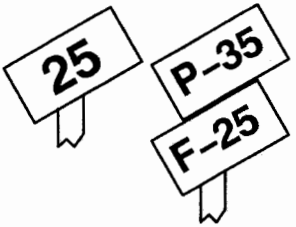
Reduce speed limits may be designated by Advance Warning Sign (diagonally upward), Reduce Speed Sign (rectangle) and Resume Speed Sign (vertical).

The Advance Warning Sign will be placed two miles in advance of the location where the lower speed takes effect. At the point where the reduced speed applies, a speed sign will repeat the permissible speed. The lower speed will be in effect until a Resume Speed Sign or another Speed Sign is displayed.

At the end of a reduced speed zone, a train or engine will be governed by a Speed Sign displaying a higher speed or a Resume Speed Sign which will authorize the maximum permissible speed on that subdivision. In either case, the speed must not be increased until the entire train has passed the sign displayed.

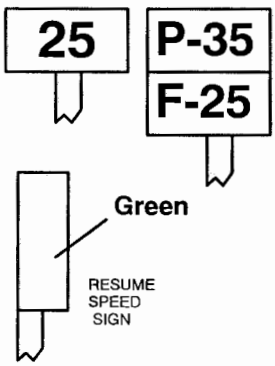
Locations where reduced speeds are required, but which are not indicated by signs, are listed in the special instructions for each subdivision.

ADVANCE WARNING SIGN



Note:
Advance Warning Sign and Speed Sign have yellow background and black letters and/or numbers

SPEED SIGN



These signs as illustrated, apply to train and engine movements as follows:
Figures preceded by letter P apply to passenger trains.
Figures preceded by letter F apply to freight trains.
Figures not preceded by a letter apply to all trains.

Rule 5.8.2 – add as new 4th paragraph: Sound whistle signal (11) and ring the bell when approaching roadway workers on or near the track, regardless of any whistle prohibition.

Rule 5.11 Engine Identifying Number–is changed to read:

Trains will be identified by initials and engine number, adding the direction when required. When an engine consists of more than one unit or when two or more engines are coupled, the number of one unit only will be illuminated as the identifying number. When practical, use the number of the leading unit.

Note: For clarification purposes, all former Santa Fe engines (including MK engines) painted blue and yellow or red and silver will be identified as ATSF engines. All former Burlington Northern engines painted green and white or green and tan will be identified as BN engines.

Rule 5.13.1 New Rule Added–This rule outlines the requirements for allowing utility employee to work without blue signal protection.

As used in this rule, a **Utility Employee** is a railroad employee assigned as a temporary member of a train or yard crew.

A. Requirements to Start Work–A utility employee may work with more than one crew during the same shift or tour of duty, but may work as a member of only one train or yard crew at a time.

No more than three utility employees may work with one train or yard crew at the same time.

A utility employee may become a member of a train or yard crew under the following conditions;

- The utility employee establishes communication with the designated crew member of the train or yard crew before starting work.
- The designated crew member identifies the utility employee to each member of the crew, and each crew member acknowledges the utility employee's presence.
- The designated crew member authorizes the utility employee to work as a temporary member of the crew.

B. Requirements While Working On, Under, or Between–Before a utility employee will be on, under, or between rolling equipment, the following applies:

- All members of the crew must communicate with each other to understand the work to be done.
- The engineer must be in the cab of the assigned controlling locomotive. However, another member of the same crew may replace the engineer when the locomotive is stationary.

C. Requirements When Work Ends–A utility employee is released from a train or yard crew when;

- The utility employee notifies the designated crew member the work is completed.
- The designated crew member notifies each crew member that the utility employee is being released.
- After the designated crew member releases the utility employee from the train or yard crew, each crew member acknowledges this notice.

Rule 6.1.1 Direction and Numbers–new rule added:

When issuing or repeating track and time limits, track warrants, track bulletins, train location lineups and OCS, observe the following guidelines:

Directions–Directions (North, South, East, West) must be pronounced, then spelled.

Numbers–When the figure has more than one number:

1. State the number in words. (Example: Three-hundred sixty five)
2. State each figure in the number. (Example: Three, six, five)

When the figure has only one number:

1. State the number. (Example: Three)
2. Spell the word. (Example: T, H, R, E, E)

Rule 6.2.1 Train Location–Add new rule reading:

Train or maintenance of way employees who receive authority to occupy the track after the arrival of a train or to follow a train must ascertain the train's location by one of the following methods:

- Visual identification of the train
- Direct communication with a crew member of the train.

or

- Receiving information about the train from the train dispatcher or control operator.

Rule 6.3 Main Track Authorization–following last paragraph is added:
Requesting Authority–The employee requesting authority must be qualified on these rules and must tell the train dispatcher or control operator exactly where the main track will be entered. Employees and equipment must not enter the main track at any other point unless otherwise authorized.

Rule 6.4.1 Permission for Reverse Movements–Amended to read:

Obtain permission from the train dispatcher or control operator before making a reverse movement, unless the movement is within the same block in any of the following territories:

- CTC
- ABS
- Rule 9.14 (Movement with the Current of Traffic)

Rule 6.4.2 is amended as follows: Change all of part A. including Diagram A., as follows:

A. Control Points or Manual Interlockings–Except within track and time limits, obtain permission from the control operator:

1. Before making a reverse movement if the trailing end of the train is between the outer opposing absolute signals of a control point or manual interlocking.
2. Before making a forward movement after making a reverse movement if the engine is between the outer opposing absolute signals of a control point or manual interlocking.

Rule 6.5 is amended to read–When cars or engines are shoved and conditions require, a crew member must take an easily seen position on the leading car or engine, or be ahead of the movement, to provide protection. Cars or engines must not be shoved until the engineer knows who is protecting the point of the movement and how protection will be provided. Cars or engines must not be shoved to block other tracks until it is safe to do so.

When cars are shoved on a main track or controlled siding in the direction authorized, movement must not exceed:

- 20 MPH for freight trains
- 30 MPH for passenger trains
- Maximum speed for snow service

Rule 6.6 is amended as follows–The following is cancelled:
6. Movement does not exceed 5 MPH.

Item 4 is changed to read:
4. Movement will not be made into or within yard limits, restricted limits, or interlocking limits.

Add new last sentence reading: Trains backing up under the provisions of this rule may pass signals indicating Stop and Proceed, without stopping.

Rule 6.12 FRA Excepted Track–Change last bullet to read;

- No movement will be operated that contains more than five cars placarded according to Hazardous Material Regulations.

Rule 6.13 Yard Limits is amended as follows–First paragraph is amended to read: Within yard limits, trains or engines are authorized to use the main track not protecting against other trains or engines. Engines must give way as soon as possible to trains as they approach. Engines which have not received track warrant authority to occupy main track must keep posted as to the expected arrival of passenger trains and must not delay them.

Rule 6.19 Protection Against Following Trains–Unless otherwise specified in Individual Subdivision Special Instructions, when necessary to provide protection against following trains, a crew member must go back at least the distance prescribed below:

Where Maximum Authorized Timetable Speed is	Distance
35 MPH or less	1 mile
36 MPH to 49 MPH	1 1/2 miles
50 MPH or over	2 miles

Rule 6.20 Portion of Train Left on Main Track–add a forth bullet which reads:

- Make the return movement at restricted speed. However, an engine without cars may return at a higher speed when governed by block signal indication.

Rule 6.23 Emergency Stop or Severe Slack Action–is amended by adding: Train must not proceed until it has been determined that it is safe to do so by visual inspection of train or knowledge that the brake pipe pressure has been restored by observing caboose gauge, End of Train Device (ETD) control head, or ascertaining that air pressure is present in the brake pipe by the following procedure:

A) After air brakes have had sufficient time to release following an emergency application, make a 20 psi. brake pipe reduction: and,
B) After brake pipe exhaust ceases, place automatic brake valve cutout valve to "OUT" position. If brake pipe pressure rapidly reduces to zero, entire train must be inspected. If air pressure is present in brake pipe, train may proceed.

Exception: If train exceeds 5,000 tons, train must be visually inspected unless emergency application of the brakes occurs at a speed above 30 MPH **and** it can be ascertained that brake pipe is continuous by observing pressure being restored on rear car after emergency application is released, or by performing steps "A" and "B" above.

ALL TRAINS: Train must be visually inspected before proceeding if unusual slack action was experienced when stopping or if excessive power is required to start train. If excessive power is not required to start train, and physical characteristics prevent a complete walking train inspection, inspect as much of the train as possible. The train may then be moved, but may not exceed 5 MPH for the distance necessary to complete the inspection, and must be stopped immediately if excessive power is required to keep train moving.

The last paragraph under heading "Train on Adjacent Track" is amended to read: A train on an adjacent track that receives radio notification must approach location at restricted speed and stop short of any obstruction or flagman. When advised track is clear and it is safe to proceed, these restrictions no longer apply.

Rule 6.29.1 Inspecting Passing Trains–last paragraph is amended to read:
Crew members must be aware of trackside warning detectors and signals from persons inspecting their train.

Stop the train immediately for inspection when:
- crew member receives stop signal
- a trackside warning device indicates a train defect or failed equipment

or
- notified of a dangerous condition.

Movement must not proceed until it is safe.

Rule 6.29.2 Train Inspection by Crew Members–is supplemented by adding a new first paragraph reading: If trackside warning detector or visual inspection notes a dragging equipment or shifted load defect, a walking inspection is required. The train may be moved only after:
- walking inspection confirms there is no dragging equipment or shifted load(s)
- defective car or cars are repaired

or
- permission is received from the train dispatcher or manager to move defective equipment.

Second paragraph (former first paragraph) is amended to read: At other times when a walking inspection of the train is required, and physical characteristics prevent a complete train inspection, inspect as much of the train as possible. The train may then be moved, but may not exceed 5 MPH for the distance necessary to complete the inspection.

Rule 6.32.2 Automatic Crossing Devices–is amended as follows: Under any of the following conditions, a movement must not foul a crossing equipped with automatic warning devices until the device has been operating long enough to provide warning and the crossing gates, if equipped, are fully lowered:
- Movement has been delayed or stopped within 3,000 feet of the crossing
- Movement is closely following another movement
- Movement is on other than the main track or siding

Employees must observe all automatic crossing warning devices and report any that are malfunctioning to the train dispatcher or proper authority by the first available means of communication. Notify all affected trains as soon as possible.

A. Automatic Warning Devices Malfunctioning

Use the following table to properly complete movement over the crossing:

Movement When Automatic Warning Devices Are Malfunctioning	
If...	**Then...**
The crossing is not protected by someone at the crossing	Stop before occupying the crossing. After a crew member is on the ground at the crossing to warn highway traffic, proceed over the crossing on hand signals from that crew member. or If devices are seen to be working or when relieved by the train dispatcher, proceed over the crossing at 15 MPH without stopping until the head end of the train completely occupies the crossing. Then proceed at normal speed.
The crew is notified that the crossing is protected by 1 equipped flagger who is unable to protect the crossing in all directions of approaching traffic	Proceed over the crossing at 15 MPH without stopping until the head end of the train completely occupies the crossing. Then proceed at normal speed.
The crew is notified that the crossing is protected by 1 or more equipped flaggers who are able to protect the crossing in all directions of approaching traffic	Proceed over the crossing at normal speed without stopping.
NOTE: An equipped flagger is a person other than a crew member who is equipped with an orange vest, orange shirt, or orange jacket. At night, the vest, shirt or jacket must be florescent. The flagger must have a red flag or stop paddle by day and a light at night.	

B. Whistle for Crossing

When notified that automatic warning devices are malfunctioning, sound whistle signal 5.8.2(11) regardless of any prohibition.

C. Train Dispatcher and Yardmaster Responsibilities

When notified that automatic warning devices are malfunctioning, the train dispatcher or yardmaster must:

- Notify all trains.
- Contact the Signal Maintenance Desk to ensure that local law enforcement agents are contacted.

Rule 7.1 Switching Safely and Efficiently–amended by adding second paragraph reading:

Do not leave cars or engines where they will foul equipment on adjacent tracks or cause injury to employees riding on the side of a car or engine.

Rule 7.7 Kicking or Dropping Cars–is amended to read: Kicking cars is permitted only when it will not endanger employees, equipment or content of cars. Dropping cars is permitted only on territory where specifically authorized.

Before dropping cars, crew members must fully understand the intended movement. They must verify that the track is sufficiently clear and that switches and hand brakes are in working order. If possible, the engine must run on a straight track.

Rule 7.8 Coupling or Moving Cars on Tracks Where Cars are Being Loaded or Unloaded–add a 5th bullet under "In addition:"

- Ensure plug-type and swinging doors on cars are properly closed or secured.

Delete sentence reading: "Properly close or secure plug-type and swinging doors on cars."

Rule 8.1 Position of Switches–new second paragraph is added:

Do not operate a switch that is tagged. If a switch is spiked, do not remove the spike unless authorized by the craft or group that placed it.

Rule 8.3 Main Track Switches–the following is added: When a switch is returned to normal position as required by the last bullet of rule 8.3 (Main Track Switches) the employee is considered at that location if their train or engine is occupying the switch.

Rule 8.19 Automatic Switches–"Operating an Automatic Switch by Hand"– is supplemented by adding: After switch is placed in hand position, signal governing movement over the switch will display Stop indication and movements will be governed by hand signals.

Rule 8.20 Derail Location and Position–is amended as follows: Third paragraph is amended to read: Sidings having hand-thrown derails will have derail locked off rail, except when engines or cars are left unattended on siding. On auxiliary tracks other than siding, except when derails are placed in non-derailing position to permit movement, make sure they are always in derailing position regardless of whether cars are on the track they are protecting. Lock all derails equipped with a lock.

Rule 9.12.4 ABS Territory–Change the current #2 to #3 and add new #2 as follows:

2. Proceed at restricted speed to permit an engine, with or without cars, to couple to its train or to a standing cut of cars, if the track between the engine and cars is clear.

Rule 9.15 Track Permits–is amended by adding the following between the existing paragraphs:
Limits designated by a switch extend only to the signal governing movement over the switch unless otherwise designated.

Rule 9.15.1 Issuing Track Permits–as amended as follows: "Track permit wording" amended to read: Track permits will be granted in the words "Track permit, authority (number), granted on (track), between (point) and (point), (time) until (time)."

New last paragraph is added, reading: Track Permit authority must be recorded on and repeated from form provided for that purpose.

Rule 9.18 Electrically Locked Switches and Derails–is amended as follows: Second paragraph is amended to read: To enter a track within manual interlocking or CTC limits, employees must not open the case door or unlock an electrically locked switch or derail without authority from the control operator.

Rule 10.1 Authority to Enter CTC Limits–is amended as follows: the first bullet is changed to read:

- A controlled signal displays a proceed indication.

Rule 10.3–is amended as follows: The instructions inside the box are changed to read:

> Track and time does not authorize trains to occupy the main track within automatic interlocking limits.

A. Passing Signal Displaying Stop or Stop and Proceed Indication–first line is changed to read: Except at automatic interlockings, trains granted track and time.

Rule 10.3.4–is amended as follows: First paragraph is changed to read: The employee requesting track and time will state name, occupation, exact location and train or other identification. The employee will copy the authority granted on the form provided for the purpose, and repeat from the form the authority granted. If the authority is repeated correctly, the control operator will acknowledge with "That is correct". The train can make no movement until the engineer understands the track and time granted. The employee who request track and time must retain the written track and time record until track and time is released.

Rule 14.3–Operating with Track Warrants–is amended as follows: Item number 1 is amended to read: 1. Proceed from one point to another in the direction the track warrant specifies. When a crew member informs the train dispatcher that the entire train has passed a specific point, track warrant authority is considered void up to that point. When the train dispatcher instructs a train crew to report passing a designated station or mile post, if the station has a siding, the report must be made after the rear car of the train passes over the last siding switch or rear car of train passes the mile post. If the designated station does not have a siding, the report must be made when the rear car of the train passes the station sign.

Rule 14.4–Occupying Same Track Warrant Limits–is amended as follows: Change the second paragraph of 1 to read: A train must inform the train dispatcher when it leaves the main track before reaching the last named point, unless a flagman is left to prevent a following movement from passing.

Rule 15.2 Protection by Track bulletin form B–the third paragraph is changed to read: However, trains do not need to comply with the above requirements if instructed as stated below, or if the entire train has cleared the limits.

Rule 15.2 Protection by Track Bulletin Form B

A. Verbal Permission–the following paragraph is added:

4. To permit a train to move at a higher speed after receiving permission to pass a red flag or light at a specific speed for a specific distance, add the following:

"(Train) may pass red flag (or light) located at MP_____(without stopping) at_____MPH until the entire train has passed MP_____. You may then proceeed at (higher speed) MPH (or at maximum authorized speed)."

Rule 18.0–Occupancy Control System (OCS)

Rule 18.1–OCS for Trains and Engines

In addition to GCOR Rule 6.13 (Yard limits), the following also applies at locations designated under the Individual Subdivision Special Instructions:

Occupy the Main Track

Before occupying the main track, trains or engines must receive one of the following permissions from the train dispatcher or control operator.

- Written OCS
- Signal indication of a controlled signal.

  or
- Verbal permission.

Locations where permission is granted by signal indication or verbal permission will be designated in the Individual Subdivision Special Instructions or by General Order.

Written OCS must be used when permission is joint with Maintenance of Way or when operating against the current of traffic.

OCS does not relieve a train or engine from complying with restricted speed in non signaled territory.

The employee requesting OCS will state name, occupation, location and train or other identification. The employee will then copy and repeat the permission granted. If the permission is repeated correctly, the train dispatcher or control operator will acknowledge. The train can make no movement until the engineer understands the OCS granted. The employee who requests OCS must retain the written OCS record until OCS is released.

Employees must advise the train dispatcher or control operator when they are clear of the limits.

Employees releasing OCS must state the following:

- Their name
- The OCS number being released
- The track limits being released

Designated Limits

OCS limits must be designated by specifying track, where required, and exact points such as switches, mile posts, or other identifiable points.

Direction of Movement

When trains or engines receive permission to proceed from one point to another, they must only move in the direction specified.

When trains or engines receive permission to work between two specific points, they may move in either direction between those points.

Same Limits with a Train or Engine

Before a train or engine receives permission to occupy the same limits with a train or engine working between two locations, a crew member of each train or engine must be notified. When notified, all movements must be made at restricted speed.

Same Limits with Men or Equipment

Before a train or engine receives permission to occupy the same limits with men or equipment, the maintenance of way employee in charge and a crew member of the train or engine must be notified. When notified, all movements must be made at restricted speed.

Permission Expired

When unable to contact the train dispatcher and OCS permission expires, permission is extended until the train dispatcher can be contacted.

OCS Form–
The following is an example of the OCS form:

"OCS" Occupancy Control System

No._____ _____ 19____

To: _____ At: _____

A.	☐	OCS No. _____ is cancelled.
B.1	☐	Proceed from _____ to _____ on _____ track.
B.2	☐	Proceed from _____ to _____ on _____ track.
C.	☐	Work between _____ and _____ on _____ track.
D.	☐	Do not proceed until _____ arrives at _____.
E.	☐	Following _____.
F.	☐	Limits occupied by train or engine between _____ and _____.
G.	☐	Limits occupied by men or equipment between _____ and _____.
J.	☐	This permission expires at _____.
K.	☐	Do not exceed _____ MPH between _____ and _____.
L.	☐	Other specific instructions _____

OK _____ Issued by _____ Limits reported clear at _____

(Mark X in box of each item instructed.)

Glossary–the following abbreviations are added:
AS Absolute Signal
RL Restricted Limits

15. **General Code of Operating Rules Supplemental Instructions–**Several rules in the General Code of Operating Rules allow and/or require that supplemental instructions be carried in the timetable or special instructions. Following find the supplemental instructions that apply to Burlington Northern Santa Fe.

Application of Hours of Service & Change to GCOR Rule 1.17–Apply the following when reporting Hours of Service:

Time spent waiting for deadhead transportation must not be counted when determining time on duty for hours of service purposes when relieved of all duties as outlined in GCOR Rule 1.17.

Rule 3.3 Time Signals–On the BN telephone system, time signals received from WWV TIME may be used to set watches and clocks to correct time. The hours are given in Coordinated Universal Time; so, only the minutes and seconds may be used. Telephone number for WWV TIME is 8–998–8463 (8–WWV–TIME). On the Santa Fe telephone system, dial 820–4400 for central time only.

Rule 4.3 Timetable Characters–

A – Automatic Interlocking
B – General orders, notices, and circulars
C – Radio communication
g – Gate, normal position against conflicting route
G – Gate, normal position against this subdivision

J – Junction
M – Manual interlocking
P – Telephone
R – Restricted limits
S – Railroad crossing protected by permanent stop sign
T – Turning facility
U – Railroad crossing not protected by signals or gates
X – Crossover
X(2) – Multiple crossovers
Y – Yard limits

Rule 6.23 Train Inspection Checklist:

	Walking Inspection Needed	Proceed — No Inspection Needed
Brake pipe pressure is not restored	X	
Under 5,000 tons & brake pipe is not restored	X	
Under 5,000 tons & brake pipe is restored		X
Over 5,000 tons but under 30 MPH	X	
Over 5,000 tons; over 30 MPH & brake pipe pressure is not restored	X	
Over 5,000 tons; over 30 MPH & brake pipe pressure is restored		X
Excessive slack action when stopping	X	
Excessive power required to start train	X	

4 Ways to Determine if Brake Pipe Pressure is Being Restored–

1. Observe caboose air gauge
2. End of Train Device
3. Air Flow Meter Indicator gauge
4. Make a 20 psi brake pipe reduction and after brake pipe exhaust ceases, place automatic brake valve to "OUT" position. If brake pipe drops rapidly, train must be inspected.

Rule 5.4.8 Track Flags–Flags may be displayed, when necessary, to the left of track as viewed from an approaching train.

Rule 6.26 Use of Multiple Main Tracks–

Unless otherwise indicated in the Individual Subdivision Special Instructions, when using main tracks, except double track, in westward or southward timetable direction, they will be numbered consecutively from right to left beginning from Main 1. When using in eastward or northward timetable direction, they will be numbered from left to right beginning with Main 1.

Rule 6.32.6 Blocking Public Crossings–In the state of Texas, if possible a standing train or switching movement must avoid blocking a public crossing longer than 5 minutes.

Rule 9.7 Signal Failure–Trains operating under the direction of the SOC Schaumberg, also advise signal help desk at the SOC of a signal failure.

Rule 9.12.3 Automatic Interlockings–

At a signal displaying a Stop indication, in addition to complying with the instructions in the release box, the following must be complied with:

If signal does not change its indication at expiration of time release interval, train may then proceed on hand signal from a member of the crew at the crossing if there is no train approaching on conflicting routes.

If a train is approaching on a conflicting route, hand proceed signal must not be given until such movement has been completed over the crossing, or has come to a stop at the governing signal.

If a train is standing between the absolute signals on a conflicting route, the proceed signal must not be given until after thorough understanding has been had with the crew of the train on the conflicting route.

Rule 10.3C Track and Time Release Within the Limits–Following is added: Employees releasing track and time limits must state the following:

- Their name
- The track and time limit number being released
- The authorized track limits being released

Rule 14.10 Track Warrant in Effect–Following is added: An employee releasing a track warrant must state the following:

- Their name
- The track warrant number being released
- The track limits being released
- Time track warrant was reported clear

Track Warrants–Track Warrants issued electronically print only items checked. The item numbers checked will be listed on the bottom of the track warrant. Notify the dispatcher if:

- The track warrant does not contain all items listed on the bottom.
- Computer generated line on the bottom listing the items checked is missing.

or

- Track warrant is missing text or is otherwise not legible.
  When contacted, train dispatchers will arrange to provide crews with complete, legible copies and report incident to their supervisor.

Track Bulletin Form D–Form D Track Bulletins sent electronically include the number of lines of text on the bottom of the track bulletin. The computer will count and list **all** lines that contain at least **one** character. Notify the train dispatcher if:

- The track bulletin does not have the same number of lines shown on the bottom.
- The computer generated line on the bottom listing the number of lines is missing.

or

- The track bulletin is missing text or is otherwise not legible.
  When contacted, train dispatchers will arrange to provide crews with complete, legible copies and report incident to their supervisor.

Mechanically transmitted track bulletins from SOC, Schaumburg, must indicate in space provided, the total number of lines used. Employees receiving copies must assure that the lines used correspond with the number indicated.

16. **Maintenance of Way Operating Rules Changes and Additions–**

Rule 3.3 Time Signals–

Time signals received from WWV TIME may be used to set watches and clocks to correct time. The hours are given in Coordinated Universal Time; therefore, only the minutes and seconds may be used. Telephone number for WWV TIME is 8–998–8463 (8–WWV–TIME). On the Santa Fe telephone system, dial 820–4400 for central time only.

Rule 4.3 Timetable Characters–

A – Automatic Interlocking
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T – Turning facility
U – Railroad crossing not protected by signals or gates
X – Crossover
X(2) – Multiple crossovers
Y – Yard limits

Rule 5.11 Engine Identifying Number–the following second paragraph is added:

Note: For clarification purposes, all former Santa Fe engines (including MK engines) painted blue and yellow or red and silver will be identified as ATSF engines. All former Burlington Northern engines painted green and white or green and tan will be identified as BN engines.

17. **Air Brake and Train Handling Rules Changes and Additions**–None

18. **Safety Rules and General Responsibility for all Employees Changes and Additions–**

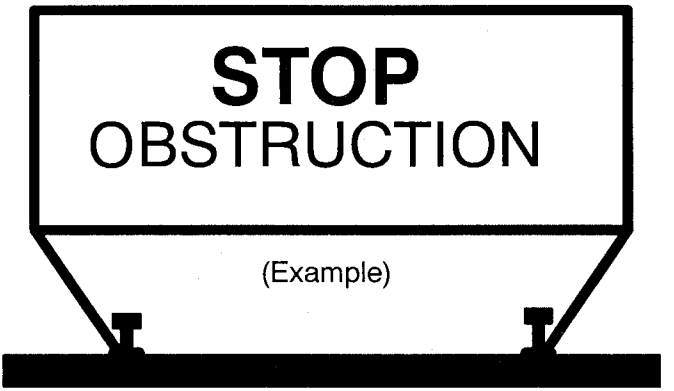
Rule 1.14 Employee Jurisdiction– is cancelled.

Rule 1.26 Gratuities–second sentence is changed to read:

Employees must not accept gifts or rewards from customers, suppliers, or contractors of the railroad unless authorized by the proper manager.

19. **Operations Testing–**

When operations testing is performed to test for compliance with the following rules, a banner, approximately three feet by eight feet with red reflectorized border and lettering on a white background may be stretched across the track. It will display "STOP" or "STOP OBSTRUCTION".



This banner is considered a stop signal and a simulation of on–track equipment. Whenever required by an operating rule, stop all train, engine, and on–track equipment movements short of the "STOP" or "STOP OBSTRUCTION" banner.

Examples of operating rules where the "STOP" or "STOP OBSTRUCTION" banner may be used as a stop signal are:

- GCOR & MWOR Rule 6.27 Restricted Speed
- GCOR Rule 6.28 Movement On Other Than Main Track

OR

- MWOR Rule 6.50 Approaching at Safe Speed:

Expect to find the "STOP" or "STOP OBSTRUCTION" banner erected at any location, or at any time the rules above restrict movement.

20. **Automatic Cab Signals**

Cab signal equipment must be cut out except on suburban equipment on the Chicago Subdivision.

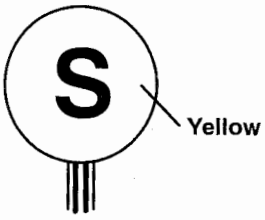
21. **Verification of Rules Examination**

Employees required to pass rules examination must have a current rules examination card when issued, or engineers license or certificate in their possession while on duty.

22. FRA Random Drug Testing–

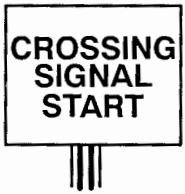
TY&E employees selected for FRA Random Drug Testing must show the start time of the Random Drug Test (RDT) in the remarks column of their timeslip. Start time of RDT begins when a supervisor notifies the employee or hands the employee a letter advising him/her that they are selected for RDT. A stop time on RDT is necessary only if different from their off duty time.

23. Roadway Signs – Except as shown, the following roadway signs have white background and black letters and/or numbers.

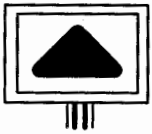


Spring Switch
Rule 8.9

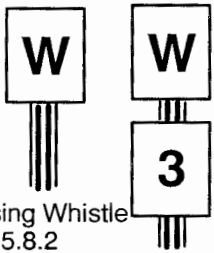
One Mile Switch



Crossing Signal Start
Rule 6.32.2



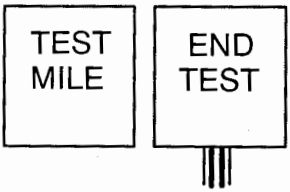
Crest of Grade
Black on yellow reflective background.



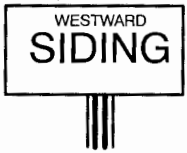
Crossing Whistle
Rule 5.8.2

Numeral when attached, denotes the number of crossings less than 1,320 feet apart.

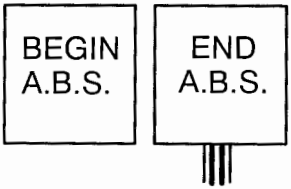
Derail
Rule 8.20



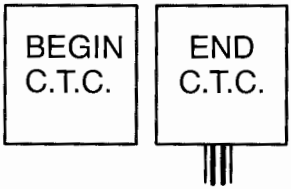
Begin Test Mile and End Test Mile



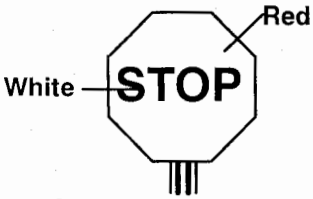
Westward Siding or
Eastward Siding
Rule 6.28.1



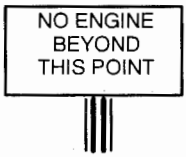
Begin and End A.B.S.



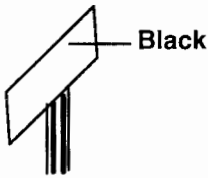
Begin and End C.T.C.



Stop
Rules 6.16 and 6.18



No Engine Beyond This Point

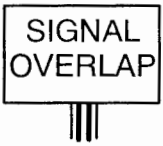


FLANGER

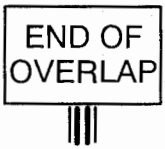
White letters on reflective red background, or black letters on white background. Rule 6.32.2

Stop

End Double Track

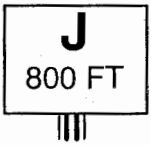


Signal Overlap
Rule 9.21

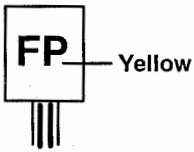


End of Overlap
Rule 9.21

Railroad Crossing
Rules 6.16 and 6.18



Junction
Rule 6.18

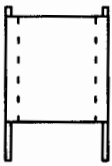


Fouling Point

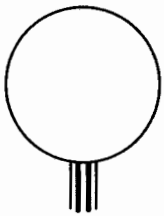
Restricted Limit
Rule 6.14

Track Flag

Yellow–Rule 5.4.2
Yellow–Red Rule 5.4.3
Red–Rule 5.4.7 or
Green–Rule 5.4.5



Track Flag



Track Flag

Yard Limit
Rule 6.13

One Mile Draw Span
Rule 6.16

No Clearance

24. **Cars Setout Bad Order**–When a car is set out between terminals account bad order, it should, if possible, be left where it can be driven to by truck for making repairs.

25. **Grade Crossing Accidents**–The following information is designed to serve as post grade crossing accident guidelines. It is designed to provide the utmost in safety for you and your crew.

After the accident has occurred and the train is stopped:

a. Ensure the safety of crew members, accident victims, and the public.
b. Meet the requirements of rule 6.23.
c. Contact the dispatcher or any other available radio contact and advise:
   1. exact location; and
   2. what emergency services are needed.
      Be sure to include alternate routes for the emergency vehicles if your train is blocking road crossings.
d. Assess the damage to the vehicle and train to determine if there is any danger to your crew or the public.
e. Assign a crew member to monitor a radio to provide further information for emergency assistance.
f. If it is safe, render assistance to accident victims. It is important not to move the victim unless a life threatening situation exists.
g. Turn "off" the vehicle's ignition and inform the investigating officer you did so. Otherwise, do not disturb the accident scene.
   Do not move the train unless it presents a safety problem, such as emergency vehicles needing to get to the accident through a blocked crossing, etc.
h. Only give information to :
   1. The investigating officer; or,
   2. Authorized company managers.
      Cooperate with the investigating officer. Answer the officer's questions and provide as much information as you can recall.
      Record the badge number and name of the investigating police officer at the scene. Witness with the officer that the headlight is on, and that the whistle and bell on lead unit are in proper working order. Also, note that the crossing warning devices are functioning.
i. Assign a crew member to verify the accuracy of the train list. Save all train lists, track warrants, track condition messages, and other pertinent documents for the proper BNSF managers.
j. Ascertain that no part of your train is derailed and that it will be safe to proceed once released by the investigating officer.
k. Personal counseling will be available to any crew member who might experience post–accident trauma.

26. **System Work Train Policy**–The conductor is in charge of and will be responsible for all work train movements. The safety of the overall train operation is the responsibility of the entire train crew. The engineer shall receive train movement instructions only from a member of the train crew except in cases of emergency.

When Maintenance of Way, Signal, Structures, Mechanical or other work groups are involved with the activities of the work train, a coordinator from such group must be designated. The train crew will communicate with the designated coordinator concerning all train movements and work activities.

An initial job briefing will be conducted before commencing work and additional job briefings must be held at intervals not to exceed four (4) hours until the end of the tour of duty. In addition, when there is a change in assignment or a significant delay in activities has occurred, a job briefing must be conducted prior to commencing work. Employees who subsequently work in the vicinity of a work train after such job briefings have been held, must not commence work until they have received a job briefing from the designated coordinator regardless of authority received to occupy the area. The Conductor is responsible to ensure that no work activity begins until the required job briefings are complete.

Job briefings must include applicable operating rules, safety rules, special instructions and any other work–specific information. The designated coordinator is responsible for communicating impending train movements to the work groups under his control.

All employees assigned to a work train and/or its activities are responsible to be on the lookout for train or track car movements at all times. Lookouts will be utilized when necessary and all movements must be fully protected.

27. **Track Condition Messages–**

Track condition messages may be issued by train dispatchers to cover restrictions on other than main track.

Restrictions shown on a track condition message may be cancelled verbally by the Train Dispatcher.

Authority can be given by a Train Dispatcher or supervisor to enter a track shown to be out of service on a track condition message.

When a track warrant indicates a track condition or train message is to be received, conductor is responsible for securing those messages necessary for movement of their train. Track condition messages must be retained and complied with on all trips made during the tour of duty on which they were received.

28. **Less Than 12 Axle Restrictions–**

Train, engine and other such movements consisting of less than 12 axles must approach road crossings at grade equipped with automatic crossing warning devices prepared to stop until it is determined that the warning devices are operating properly.

29. **V Slope Flat Cars–**

V Slope Flat Car loads of pulpwood logs, without side retainers, are restricted to 35 MPH, and must be observed closely enroute. Trains handling these cars will stop before passing through truss or girder bridges and crew will inspect cars to be safe to pass through bridge before proceeding.

30. **Two Axle Cars–**

Hand brakes must not be depended upon to hold two axle cars. When a two axle car is set out, it must be chained to the rail or coupled to a non two axle car with operative hand brake.

31. **Securing Track Warrants–**When reporting for duty at initial terminal, a crew member will secure track warrants, track bulletins, and track condition messages, when required. Except in CTC territory, a crew member must contact the dispatcher before departing to determine if additional track warrants, track bulletins, and track condition messages are required, and advise if all crew members are present and ready to depart.

At locations where track warrants are received by printer or FAX, crew members must verify that the route description at top of track warrant, if so printed, covers the intended route of their train. If it does not, contact the train dispatcher and determine if the track warrant is valid. Also, crew members must check the date and "OK" time on track warrant and if the track warrant is over three (3) hours old, contact the train dispatcher and determine if the track warrant is still valid.

32. **Radio Controlled Ballast Cars–**

There are three (3) sets of radio controlled ballast cars. Each 32 car set is split into 2 – 16 car units with couplers padlocked together using mechanical Switch/Derail Locks. Additionally, each 16 car unit has its own CONTROL CAR and can operate independently or in combination with another 16 car unit. The following is the current pool assignment of these cars:

Newberry	32 cars (2ea. 16 car units w/locked couplers). Series ATSF 180400 – 180431 with CONTROL CARS: 180400 & 180425.
Newberry	32 cars (2ea. 16 car units w/locked couplers). Series ATSF 180432 – 180463 with CONTROL CARS: 180440 & 180450.
Davis	32 cars (2ea. 16 car units w/locked couplers). Series ATSF 180464 – 180495 with CONTROL CARS: 180475 & 180490.

These cars are numbered ATSF 180400 through 180495. The ballast car(s) door(s) are operated via pakset signals to each individual cars(s) and door(s). The doors can be opened to the inside or outside of the track, or both, to any degree between fully opened and fully closed. These door mechanisms are operated by air motors on each individual car and hydraulics which have sufficient power to crush granite and close the door during the dumping process. Extreme caution should be exercised during door operation.

The 6 control cars are identified by a white vertical stripe painted on the side center rib of the cars. Equipment needed to operated the remote control doors is in a cabinet locked with a M/W lock, on the "B" hopper underneath these control cars. A dummy hose for connecting the locomotive main reservoir hose to the ballast hopper actuating hose is stored underneath the control cars, attached to a standard air hose glad hand, which is attached to the "A" hopper door. (Each ballast car door is stenciled A,B C or D).

The dumping mechanisms of these cars operate off the locomotive main reservoir air supply and not off the trainline air supply and have dual air hose connections similar to those on our existing air dump cars.

At no time should air be unhooked from the trainline for the purpose of dumping these remote control ballast cars.

Since the doors are air/hydraulic, the locomotive engineer will need to pay close attention to his main reservoir pressure. When charging the system the engineer should not start movement until the main reservoir pressure is restored as indicated by the compressor cycling on and off on the lead locomotive.

During dumping operation, to maintain main reservoir pressure, it may be necessary to keep locomotives in throttle position 3 or 4. It may also be necessary to apply a minimum reduction of the air brakes and shove or pull the train so that throttle position 3 or 4 RPM's can be used to maintain adequate air pressure.

When dumping is complete, all doors on cars must be closed before uncoupling or closing the ballast car actuating line.

After completion of dumping and closing of doors, the dummy air hose must be returned to the holder underneath the control car.

When a bad order condition requires cutting a car out of a train, the entire string of interconnected cars in that block must be set out.

As batteries are replaced in the pakset radios, make sure that the old batteries are properly disposed of and not put back into the storage boxes. All quarries have a supply of batteries and will replenish the storage boxes as the cars are cycled back to their respective quarries.

33. Excessive Wind, Tornado, and Earthquake Instructions–

Excessive Wind Instructions:

When weather bulletins forecasting high winds are received in the Network Operations Center, the train dispatcher will notify all trains in the area, giving the time and limits of the expected high winds.

When notified that winds are forecast in excess of 60 MPH in the area, trains will be governed by the following for the time and limits stated, unless more restrictive instructions are contained in the Individual Subdivision Special Instructions:

1. Trains containing any empty TOFC/COFC equipment are restricted to 25 MPH.
2. Trains consisting entirely of loaded TOFC/COFC equipment are restricted to 40 MPH.
3. Trains containing any empty multilevel equipment are restricted to 25 MPH.

Tornado Watch and Warning Instructions:

Tornadoes are the most violent of all storms. Paths of destruction range from a few hundred feet in width to more than a mile and extend the length of a city block to 300 miles. The greatest potential for such storms exist usually from April through September.

A "tornado watch" means atmospheric conditions are such that tornadoes may develop. A tornado watch is generally issued 4–6 hours before the conditions may occur.

During a tornado watch, all train movements and yard activities will continue, keeping alert for any signs of weather change. The danger signs to look for are severe thunderstorms, hail, roaring noise, a funnel cloud or combination of the above. The radio on a locomotive or a pakset should be used to monitor instructions and information to and from the train dispatcher. In the event a crew spots a funnel cloud, the train dispatcher should be immediately notified, consistent with the crew's safety.

If a train or yard assignment has an occupied caboose, upon being notified of a tornado watch, the occupants of the caboose should immediately move to the locomotive consist. While in the process of moving to the locomotive, if the tornado watch turns into a "tornado warning", or a funnel cloud is spotted, those affected should seek shelter in a nearby ditch, ravine, culvert, under a bridge or in a depression. If none of these are available, lie face down on the ground with hands over the head away from the caboose or cars in the train.

A "tornado warning" means a tornado has been sighted or verified by the National Weather Service or by persons associated with official weather spotters. The train dispatcher will keep trains and crews appraised of limits of tornado warnings. Train crews are to follow instructions as follows:

During a tornado warning, all train movements and yard activities must stop. Any train enroute will stop and employees should seek appropriate shelter consistent with the safety of all involved, avoiding the stopping of a train on a high bridge, across railroad and highway crossing at grade, or anywhere the presence of a train could be a hindrance.

After the tornado warning has been cleared and such information has reached the train crews, if the path of the tornado crossed the tracks at their location or in the immediate vicinity, crew members must inspect their train before moving to determine if any damage or derailment has occurred to the train or if the track structure has been damaged. After inspecting the train and track, and the train dispatcher has relayed the limits of the tornado's path, the train may proceed, prepared to stop when approaching bridges, culverts, or other points likely to be affected. The train dispatcher must be advised immediately of such conditions.

Earthquake Instructions:

When an earthquake is reported, the train dispatcher will do the following:

1 Instruct all trains within 150 miles of the reporting location to "proceed at restricted speed due to earthquake conditions." An acknowledgement must be obtained from each train or engine receiving these instructions.

2. Once magnitude and epicenter are known, the following inspection criteria will apply:
   If magnitude is 0.0 to 4.9:
   -no inspection is required
   If magnitude is 5.0 to 5.4:
   - Signal inspection only for a 30 mile radius
   - Trains proceed at restricted speed until signal inspection is completed
   If magnitude is 5.5 to 5.9:
   - Signal and track inspection for a 30 mile radius immediately
   - Inspect bridges on 30 mile radius during daylight hours
   - Trains proceed at restricted speed until track and signal inspections are completed
   If magnitude is 6.0 to 6.4:
   - Signal, track, and bridge inspection for a 50 mile radius
   - Trains stop until all inspections completed
   If magnitude is 6.5 to 6.9:
   - Signal, track, and bridge inspection for a 70 mile radius
   - Trains stop until all inspections completed
   If magnitude is 7.0 to 7.4:
   - Signal, track, and bridge inspection for a 100 mile radius
   - Trains stop until all inspections completed
   If magnitude is 7.5 and above:
   - Inspection radius at the discretion of the command center
   - Trains stop until instructed to proceed

34. **Event Recorders**–All trains are restricted to 30 MPH unless at least one locomotive in the lead locomotive consist is equipped with an event recorder.

Train information now being generated should reflect whether or not a locomotive is equipped with an event recorder. Should this information reflect that no locomotive in the lead locomotive consist is equipped with an event recorder, this fact must be reported to the train dispatcher. If no information is available as to whether or not a locomotive is equipped with an event recorder, contact the train dispatcher and be governed by his instructions.

35. **Fuel Conservation**–

A. **Excessive Horsepower**–To accomplish maximum fuel efficiency and to maintain the horsepower per ton ratio for all trains, be governed by the following:

1. Train and Engine Crews are required to isolate units in a consist that are in excess of their train's scheduled Horsepower Per Ton (HPT) as displayed on the train list and train profile. When train list or train profile does not display scheduled HPT, the Train Dispatcher may advise crew of trains scheduled HPT. Crews working trains with symbols beginning in "Z". "Q" and "P" must isolate excess units to be as close to, but not below scheduled HPT.
   Crews working ALL other trains must isolate excess units, but not more than .5 HPT below scheduled HPT for their train.
   EXCEPTIONS: (a) Trains operating on grades exceeding 2.0% may use all available horsepower.
   (b) Do not isolate a unit for fuel conservation if it causes your train to exceed 400 tons per operative dynamic brake (TODB).
2. Train and Engine Crews must have authority from the train dispatcher to place excess locomotives back on line.

B. **Speed Reduction for Fuel Conservation**–The Train Dispatcher may also issue instructions for train speed to be reduced to less than maximum authorized timetable speed for fuel conservation. However, to take advantage of descending grade situations, the restriction only applies when your train is in power (for these instructions power is defined as throttle positions 3 through 8). When operating at locations where power is not required, train may be operated at maximum authorized timetable speed for that location.

C. **Empty Unit Trains–Coal, Taconite, Grain, Potash, Sulfur**–

1. Empty unit trains must not operate with more than 9000 working horsepower (HP) on-line and must isolate excess units.
   EXCEPTIONS: Empty COAL trains may operate with a maximum of 12,000 working HP on-line on the following Subdivisions: Black Hills, Butte, Orin and Canyon Subdivisions.
2. Empty unit COAL trains must not exceed 50 MPH. However to take advantage of descending grade situations, the 50 MPH restriction only applies when locomotive is in power (for these instructions power is defined as throttle positions 3 through 8). When operating at locations where power is not required, train may be operated at maximum authorized timetable speed for that location. Train Dispatchers have authority to cancel these instructions verbally. Conductor must note time and initials of Train Dispatcher canceling these instructions on delay report.
   EXCEPTIONS: Empty COAL trains may operate at maximum authorized timetable speed on the following Subdivisions: Ravenna, Brush and Dickinson Subdivisions.

D. **Movement of Light Engine Consists and Engines with Caboose Only Moves**–

1. Only one axle of power and operative dynamic brake per each 120 tons of consist may be on-line to handle movement, excess power must be isolated.
2. When consist is operated on sustained grades exceeding 2.0%, then one axle of power and operative dynamic brake per each 90 tons of consist may be on-line to handle movement, excess power must be isolated.

E. **Isolated Locomotives and Failed Locomotives On-Line**–When instructions require to isolate a locomotive or when a locomotive fails enroute and is unable to produce tractive effort and the engine continues to idle (i.e. failure to load, ground relay, etc.) the following will apply:
When ambient temperature is expected to be:

1. **Above 40 degrees Fahrenheit,** locomotive must be SHUT DOWN, do not drain.
2. **Below 40 degrees Fahrenheit,** locomotive must be ISOLATED, do not shut down.
3. **Below 0 degrees Fahrenheit,** locomotive will be isolated in WINTER/ ISOLATE position to prevent freezing. IF NOT EQUIPPED with Winter/Isolate Position, DO NOT ISOLATE for fuel conservation. When a locomotive is left standing and the locomotive is not equipped with the WINTER/ISOLATE feature, the locomotive throttle must be left in RUN 3 position.

While in consist, the train crew must observe locomotive and be alert for wheel, traction motor, bearing and truck problems, as most isolated locomotives do not have wheel slip protection.

In all cases when ambient temperature is below 32 degrees Fahrenheit, crews must ensure isolated locomotives continue to idle. If diesel engines dies and can not be restarted immediately, the diesel engine cooling must be completely drained to prevent freezing and subsequent damage to the engine.

F. **Locomotive Shut-Down Policy**–At **all** points when a locomotive(s) will not be used within 1 hour, all units will be shut down when the ambient temperature is 40°F or above. When in doubt as to the temperature or the length of time locomotive(s) will not be used, contact the train dispatcher or local supervisor.

Exceptions:

1. When a locomotive(s) will not be used within 1 hour and is left attached to a train, the lead locomotive will be left idling, with engine isolated and the remainder of the consist will be shut down. This is done in order for brake pipe to remain charged.
2. Do not manually shut down units equipped with *Smart Start* except to perform maintenance or unless *Smart Start* is defective.
   These units can be identified by *Smart Start* labels, instructions and warnings displayed in the cab of the locomotive. Warning labels are also placed on the outside of the locomotive at the start station and at other maintenance points. A green *Smart Start* enabled light is positioned on the engineers control stand. Units also have small warning horns that sound in the cab and outside the locomotive before an automatic shutdown or restart occurs.
   Locomotives equipped with *Smart Start* will automatically shut down when operating conditions permit. These units will also automatically restart when operating conditions require a startup. This requires the unit be left setup as a running unit. **Do not open battery knife switch or turn off Autostart Circuit Breaker.**
   Exception: Autostart Circuit Breaker must be turned off and tagged before performing maintenance to prevent an accidental engine restart.

Shut Down Procedures–

1. Shut down units left **standing** as follows:

a. Isolate the engine

b. Depress the Engine Stop Button to stop the diesel engine
   Note: Immediately after unit(s) are shut down, attempt to restart. If unit(s) fail to restart, notify the Mechanical Coordinator or the Train Dispatcher immediately and place yellow tag or note on the isolation switch. If restart is successful, shut unit(s) down, record the time of shut down on Locomotive Shut Down Report, Form 1236 Std. and proceed with step 3.

c. Turn off all switches and circuit breakers on the circuit breaker and engine control panels to conserve battery life, **except** the following switches:

1. Auto Water Drain Circuit Breaker on all engines equipped
2. Auxiliary Turbo Lube Oil Pump Circuit Breaker on EMD turbocharged engines
3. Computer Control Circuit Breaker if equipped

2. Shut down units **in consist** (entrained) as follows:
   When units are shut down in consist, such as light engines and excess power in a train, in order to maintain event recorder and trainline electrical functions, the following switches and circuit breakers must be left closed or on:

a. Battery Knife Switch

b. Control Circuit Breaker

c. Local Control Circuit Breaker

d. Auto Water Drain Circuit Breaker

G. Locomotive Starting Procedures–On former Santa Fe "GE" classes 500, 600, 800, 7410 and former BN class LMX 8500, there is a 5–10 second delay after placing the start switch to start before the engine will begin to turn over. When an attempt to restart fails, unless under the direction of the Mechanical Team, train and engine crew must not attempt to jump start the engine.

How to Calculate HPT–For the following examples:
train tonnage = 8,000 tons and locomotive consist = 4–3,000 HP, 6 axle, 195 ton units.

Horsepower Per Ton (HPT):

Total horsepower divided by tonnage = HPT
Ex.: 12,000 HP divided by 8,000 tons = 1.5 HPT or
Total HP divided by train tonnage plus tonnage of isolated units = HPT – (Assume 1 unit isolated)
Ex.: 9,000 HP/(8,000 + 195) = 1.09 HPT

Tons Per Operative Axle of Dynamic Brake (TODB):

Train tonnage divided by operative axles of dynamic brake
Ex.: 8,000 tons / 24 axles = 333 TODB
8,000 tons / 18 axles = 444 TODB (1 unit isolated)

Light Engine Movements:

Consist weight divided by 120 tons = axles allowed
Ex.: 780 tons / 120 = 6.5 axles (2 units) of power or dynamic brake on line.

36. Engineer Training Assistance Hotline–For questions concerning:

1. SD 70MAC, AC traction and ICE systems
2. SD 75M and GE AC 400
3. Integrated Distributive Power
4. Electronic Air Brake System

call Overland Park Training Center (913) 469–3996.

37. Duplicate Mile Posts–On subdivisions where duplicate mile posts exist, an alpha suffix has been added (ie. MP 345X, MP 420Z). This alpha character may not be on the physical mile post sign at this time. When the alpha suffix is indicated in track warrant, track bulletins and other documents, reference must be made to the timetable individual subdivisions for station locations of the mile posts indicated.

38. Special Car Handling Instructions–One or any combination of two of the following codes may be shown on train lists to designate special car handling requirements. These same codes may also appear in the Special Instruction Column of switch lists and yard inventories.

CODE	DESCRIPTION
BN	If Bad Order Notify Shipper
BT	Bare Table (No Van/Containers)
B1	Bad Order
CC	To Be Cleaned and Conditioned
CCR	Customer Chassis Required
CD	Condemned (See Note 1)
COM	Combustible
CRO	Circus Ramp
DB	Distributed Van Bed Ordered
DH	Do Not Hump
DNH	Do Not Hump
DO	Written Delivery Order
DT	Distributed Intermodal Equipment
DU	Do Not Uncouple
DI	Redistribute at Destination
EC	Empty Container (speed restricted to 55 MPH)
EHI	Excessive Height or Weight Not Being Handled as a Hi-Wide or Overload
EL	Mty Container Mechanical Lock
ER	Return Empty Via Reverse Route
FP	Fumigation Placards Applied
HB	Hold for Billing
HC	Hold for FMC Redistribution
HE	Head End Only
HFR	Home for Repair
HI	Hold for Inspection
HL	High Wide Load
HIV	High Value Load
HV	High Value
HWI	High Wide
IB	In Bond
INB	In Bond
ID	In Bond Beyond ATSF Destination
IP	Interchange Prohibited (See Note 1)
IS	In Shipper's Bond
LG	Loaded to Gallonage Capacity
LO	Local Orders
LQ	Loaded to Full Cubic Capacity
LS	Handle in Local Service Only
LV	Loaded to Full Visible Capacity
MB	Make Bill of Lading
MIC	Person in Charge of Car
MN	Mechanical Refrigeration Maintain Minus_____ Degrees
MR	Mechanical Refrigeration Maintain _____Degrees
MRE	Mechanical Refrigeration
MCNR	Mechanical Car or Trailer—No Refrigeration Required
NC	Non Credit Patron
ND	Do Not Divert
NH	No Hit—Car Distribution
NIT	Car Not in Train or Not on Track
NP	No Placards
NPR	No Placard Required
PBC	Perishable in Boxcar

CODE	DESCRIPTION
PJ	Mechanical Project Job
RE	Rear End Only
RII	Rejected in Interchange
RP	Rail Controlled Private
RS	Rule 7 Reject Candidate
RSS	Rail Surveillance Service
R90	Rejected Interchange Rule 90
SE	Hold for Seasonal Storage
SO	Car/Van Billed Shipper's Order
SPD	Speed Restricted
SR	Rail Surveillance Required
SS	Surplus Storage
Sxx	Speed in Mile Per Hour (xx is MPH)
TB	Car Control Distributed Bad Order
TSS	Tank Surveillance Service
UOS	Unload From One Side Only
UP	Unload as Placarded
WE	Weigh When Empty
WH	Weigh
WI	Waive Inspection—Set Direct
WL	Weigh Light
XX	Do Not Move This Car
ZIP	Expeditor Trains Only
ZZ	Do Not Hump or Cut Off While in Motion
25	25 MPH Speed Restriction (See Note 2)

CODE BN	CODE ATSF	DESCRIPTION (HAZARDOUS)
DAN	CH	Chlorine
NPE	CL	Combustible Liquid
DAN	CM	Corrosive
DAN	DA	Dangerous
DAN	DW	Dangerous When Wet
DAN	FG	Flammable Gas
DAN	FL	Flammable
DAN	FS	Flammable Solid
NPR	MA	Marked with ID Number
NPE	NF	Keep Away From Food
DAN	NG	Non-Flammable Gas
DAN	NS	Spontaneously Combustible
EXP	N1	Explosives 1.1 (Placard on SQ)
EXP	N2	Explosives 1.2 (Placard on SQ)
EXP	N3	Explosives 1.3
EXP	N4	Explosives 1.4
EXP	N5	Explosives 1.5
NPE	N6	Explosives 1.6
NPE	N9	Class 9 Material
DAN	OM	Oxidizer
DAN	OP	Organic Peroxide
ORM	OR	Other Regulated Material
DAN	OX	Oxygen
PGA	PA	Poison Gas (Placard on SQ)
DAN	PS	Poison
P1A	PL	Poison (Placard on SQ)
DAN	PO	Poison Gas
RAM	RM	Radioactive Material

Note 1. The 'CD' Condemned and 'IP' Interchange Prohibited codes will be inserted by the computer when the car is so registered in UMLER (Universal Machine Language Equipment Register). This does not relieve employees of the responsibility of reporting these codes when appropriate.

Note 2. Report numeric MPH speed restriction only, e.g., 25 for a car restricted to 25 MPH. Certain series of cars which have a permanent speed restriction will have the speed restriction code inserted by the computer. When such speed or speeds are shown, trains must not exceed the lowest speed so indicated. This does not relieve employees of the responsibility of reporting the proper code on work order(s) on all cars which for any reason have speed restrictions

When cars are subject to two special handling instructions, both codes should be reported. If subject to move with more than two, report the two most restrictive and protect other special handling requirements by an administrative message to those offices and/or individuals to whom the train is addressed.

SPEED TABLE								
Time Per Mile		Miles Per Hour	Time per Mile		Miles Per Hour	Time PerMile		Miles Per Hour
Min.	Sec.		Min.	Sec.		Min.	Sec.	
–	36	100	–	58	62.1	1	40	36.0
–	37	97.3	–	59	61.0	1	42	35.3
–	38	94.7	1	–	60.0	1	44	34.6
–	39	92.3	1	02	58.0	1	46	34.0
–	40	90.0	1	04	56.2	1	48	33.3
–	41	87.8	1	06	54.5	1	50	32.7
–	42	85.7	1	08	52.9	1	52	32.1
–	43	83.7	1	10	51.4	1	54	31.6
–	44	81.8	1	12	50.0	1	56	31.0
–	45	80.0	1	14	48.6	1	58	30.5
–	46	78.3	1	16	47.4	2	–	30.0
–	47	76.6	1	18	46.1	2	05	28.8
–	48	75.0	1	20	45.0	2	10	27.7
–	49	73.5	1	22	43.9	2	15	26.7
–	50	72.0	1	24	42.9	2	30	24.0
–	51	70.6	1	26	41.9	2	45	21.8
–	52	69.2	1	28	40.9	3	–	20.0
–	53	67.9	1	30	40.0	3	30	17.1
–	54	66.6	1	32	39.1	4	–	15.0
–	55	65.5	1	34	38.3	5	–	12.0
–	56	64.2	1	36	37.5	6	–	10.0
–	57	63.2	1	38	36.8	12	–	5.0

FEET	TENTHS OF A MILE
528	.1
1,056	.2
1,584	.3
2,112	.4
2,640	.5
3,168	.6
3,696	.7
4,224	.8
4,752	.9

P

R

S

T

V

W

Y

Z