MRL Derailment/Bridge Collapse Overview

- On June 24, 2023, at 6:12 a.m. MDT a westbound MRL freight train traveling at 38.6 mph, derailed 17 loaded cars on a bridge over the Yellowstone River.
- Occurred on the 2nd subdivision, Montana Division.
- Single main track, signalized – CTC territory, with a maximum authorized speed of 40 mph.
- The bridge is located at MP 51.6.
- Span 2 of the bridge collapsed into the river along with 12 of the 17 derailed cars.
- There were no reported injuries to the crew.
- Weather was 50 °F and rainy.

Aerial View of Derailment

Hazardous Materials and Emergency Response Overview

- 16 of the 17 cars that derailed contained hazardous materials.
- 10 hazmat cars were breached, and materials were released into the Yellowstone River.
- A total of 12,000 gallons of molten sulfur and 419,000 pounds of asphalt petroleum liquid released.
- District 8 Federal EPA responded and conducted air and water quality testing, concluding there was no risk to drinking water or public health.
- NTSB responded but will not be investigating further for causation.

MRL Derailment/Bridge Collapse Sketch

Car #	# In Train	HM Release	Location
GATX 227317	36	No	west bank
GATX277355	37	No	bridge/wtr
UTLX665072	38	Yes	Water
UTLX64482	39	Yes	Water
UTLX664879	40	Yes	Water
UTLX136042	41	Yes	Water
UTLX641341	42	Yes	Water
UTLX661234	43	Yes	Water
UTLX644859	44	Yes	Water
GATX69298	45	Yes	Water
CGTX 13864	46	Yes	Water
PSRX 40026	47	N/A	Water
UTLX664891	48	Yes	Pier/water
UTLX 644868	49	No	East bridge
UTLX 644873	50	No	East Bridge
UTLX 641354	51	No	East Bridge
UTLX 665083	52	No	East Bridge

Investigation Status: This incident is still under ACTIVE Investigation

This derailment on the MRL Bridge 51 collapsing is still under active investigation with a full FRA Investigation Team. The team is conducting an in-depth analysis of all evidence available and is continually requesting more information from the railroad and various other outside sources to determine the cause of this incident.

Analysis Conducted and Ongoing Analysis

- Operating Practices
- Signal Systems
  - Signal and wayside detectors in conjunction with MP&E analysis
- Motive Power and Equipment
  - Mechanical inspection of non-derailed cars
  - Mechanical Inspection of derailed cars
  - Analysis of wheel sets recovered from the river
- Track and Bridge Structures
  - Bridge Scouring Analysis
  - Bridge impact analysis
  - Track components and surface
  - Rail Integrity

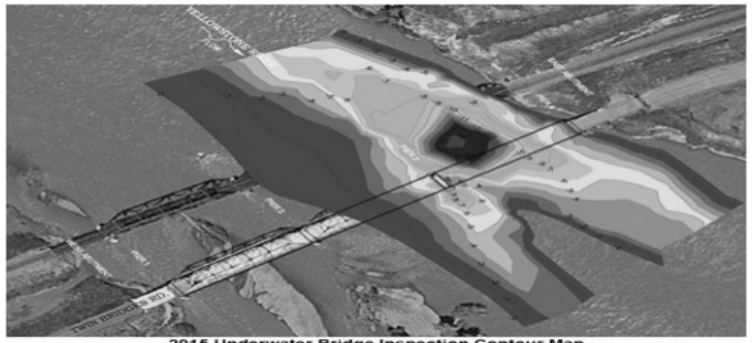
Outside Source Analysis Review

- The MRL hired Pond Industries to conduct a metallurgical analysis of rail recovered from the derailment site. The FRA Investigation team is analyzing and reviewing the report to determine concurrence.

- The MRL also hired Mr. Gary Wolfe to consult on the causation of this derailment. Mr. Wolfe has agreed to share the findings with our Investigation team. We will review for concurrence but continue to conduct our own independent investigation.

Bridge Scouring Analysis Overview

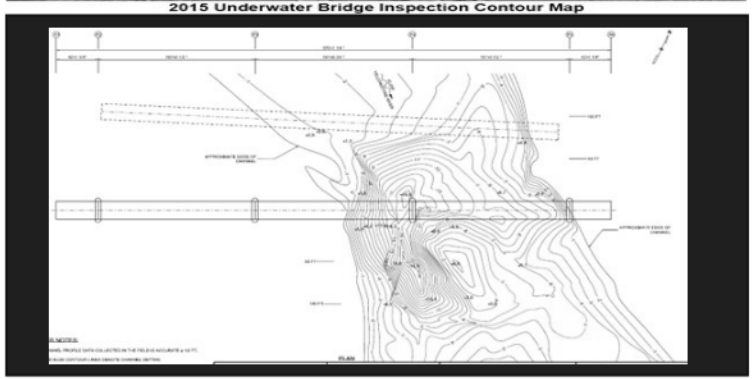
2015 NAIP Aerial Imagery



2015 Underwater Bridge Inspection Contour Map

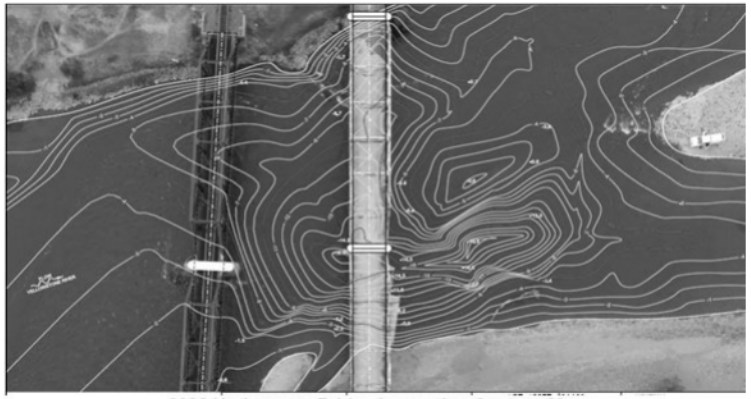
2015

2019 NAIP Aerial Imagery



2019

Upstream (North) Elevation



2020 Underwater Bridge Inspection Contour Map

2020

- The investigation team analyzed the aerial and underwater contouring between 2015 - 2020 to assess channel migration and underwater scouring holes to determine if it was causal to the failure of Pier 3 of MRL.
- The investigation determined that Pier 2 was most susceptible to experiencing a scouring event, not Pier 3, the pier that failed during the derailment.
- Bridge maintenance records, structural inspection records, and underwater inspections were assessed during this investigation.
- 13 other MRL bridges were assessed during this investigation.
- River crest level and flood levels were assessed during this investigation.
- Full findings of and scouring investigation details will be included in the final investigation report.

Bridge Scouring Analysis Key Findings and Conclusion

- In 2020, Pier 2 and 3 were encased, and new bearings were installed.
- The channel migrated south over a 3-year span, not due to one large event.
- The river crest was above flood stage at a height of 11.63ft on June 13, 2022. The flood stage is 10ft.
- The last underwater inspection was completed on November 2, 2022. During the inspection, the divers noted that both piers 2 and 3 have the same amount of rip rap visible as when the encasement and bearing replacement were done in 2020. Pier 4 was on dry ground.
- The river crest for 2023 was 7.55ft. Going back to the year 2000 it was the 3rd lowest on record. Going back 71 years to 1954 it was the 27th lowest on record.
- On September 22, 2023, the MRL had a diver look at Pier 3 again. The diver noted that the "body" of the pier was approximately 6 feet west of the footing, note that this is upstream. The east face of the footing that was 80% exposed was inspected, the rest of the footing was still buried. It showed batter that is typical for that vintage of construction. The horizontal surface of the footing was reasonably level upstream and downstream. This was checked using a 4ft level and the footing appeared to be in its original position. The diver stated, "From the evidence I see and where the pier lies in relationship to the footing, it appears that the impact of the moving truss broke the pier off of the footing as there was no reinforcement in these old piers attaching the footing to the pier."
- Diving inspections in the fall of 2022, before the derailment, and early fall of 2023, after the derailment, did not show any signs of scour and that the footer for Pier 3 was in place.
- The high crest of 2023 was well below average and follow-up underwater inspection after derailment confirms that scour was not evident at Pier 3.
- The slow migration of the channel over 3 years does not indicate that one large event caused the migration.

Conclusion: Scour is not believed to be a contributing factor in the cause of the derailment or bridge collapse

Bridge and Car Impact Analysis Car 38

Car 38 (UTLX665072) and the damage that was caused to span 3 by the impact

Bridge and Car Impact Analysis Cars 39 and 40

1

2

3

4

1. Car 39 (UTLX 644873) impact to end post and/or hangar of span 2
2. Impact from car 40 (UTLX 664879) with stencil imprinted into car 30.
3. Head end of car 40 that impacted car 39.
4. Impact to the rear end of car 40 from another derailed car.

Bridge Impact Analysis Span 2

Span 2 was cut up with shears before it was inspected by the FRA Bridge Specialist team member.

Bridge Impact Analysis Key Findings and Conclusion

- During the derailment site visit, 13 other bridges were observed in the immediate area, and inspection reports were compared to the condition of the bridge. The inspection reports were accurate and reflected the present conditions.
- The inspection report of Bridge 51 did not indicate any conditions that would affect the bridge's ability to carry the intended load.
- Pier footings were left in place post-accident, with the stem of the piers laying over, approximately 6 feet from the pier in the direction of train travel.
- Impact to the east end of span #3 by car #38, UTLX 665072 caused extensive damage to the end posts, floor beams, and pier #3.
- The impact of Car #39, UTLX 644827, and Car #40, UTLX 664879 to the west end post of span #2 as well as the L6-U7 diagonal and L6-U6 hanger would have been catastrophic and caused complete failure of the structure.
- The combined force of these 3 cars would also cause the stem of the pier to sheer off the footer in the westerly upstream direction and rest where it was found by the diver.
- Full findings of impact investigation details will be included in the final investigation report.

Conclusion: Cars 38, 39, and 40 impacted at such high force that would cause the collapse of spans 2 and 3. The cause of the derailment is undetermined at this time.

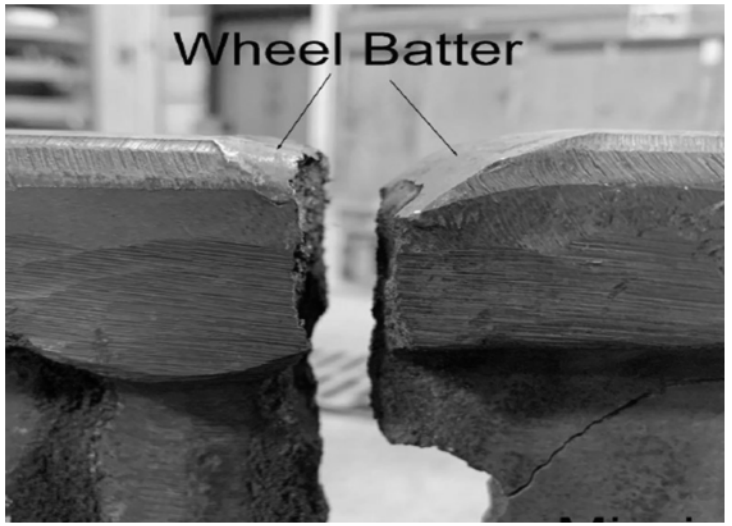
Rail Integrity Analysis of Metallurgical Report Provided by the MRL.

During the investigation, a broken weld was discovered on the east end of the bridge on the North rail. The red arrow above points to the approximate location of the weld. This week FRA received the metallurgical analysis from MRL's contractor, Pond Industries for analysis. The investigation team does not concur with the report provided to us.

Analysis of Metallurgical Report

1

2



3

4

- Pictures 1 and 2 were obtained from the metallurgical analysis report. This report labels both rails as having wheel batter, but it is this investigation team's opinion that the batter seen in this photo on the left rail is from cars being re-railed and pulled back over this rail end. These photos are not a true representative of conditions found in the field during the investigation.

- Picture 3 taken by FRA during the investigation does not match the conditions presented in the metallurgical analysis. As can be seen in photo 3, there is little to no sign of typical trailing rail end batter.

- Picture 4 is of the other end of the broken weld. It does show typical receiving rail end batter from train wheels contacting the head face of the rail in the direction of train travel.

Rail Integrity Analysis of Metallurgical Report

This is a photo taken in the field during the investigation of the broken weld analyzed in the metallurgical lab report. The on-scene investigation indicated this rail was pulled approximately 36 inches through the plates as a result of the force created when the bridge collapsed in conjunction with the derailment. The red arrow indicates the direction of train travel.

Rail Integrity Analysis Key Findings and Conclusion

- The fracture face of the analyzed rail was clean. There is no internal friction batter from the two rail ends rubbing together, typical in broken rail derailments of this nature. The broken weld is nearly 350 feet away from the bridge collapse and several wheel sets would have traveled over the broken weld causing internal friction batter if this rail was a causal factor in this derailment.
- FRA's investigation reveals this weld was likely pulled cleanly apart by the extreme forces presented by the bridge collapsing during the derailment.
- The metallurgical report suggests "opportunistic wheel loads" fractured the rail. However, the investigation team's analysis of the wheels and wayside detectors did not support any findings of such wheels.
- In a broken rail derailment, there is typically a catastrophic pile-up that occurs directly near the broken rail. This train was traveling approximately 38 mph and the cars directly over the broken rail and between the broken weld and bridge collapse were upright indicating something occurred down the track resulting in the slowing of the cars over the broken weld.
- Full findings of the rail integrity analysis and investigation details will be included in the final investigation report.

Conclusion: The FRA does not concur with the finding of Pond Industries and does not find this broken weld to be a causal factor in this derailment at this time. The cause of the derailment is undetermined and is under active investigation.

Investigation Status

- A full hazmat damage assessment has been conducted and the FRA determined that the transportation of hazardous materials was not a causal factor in this derailment but did affect the severity of it.
- A full Operating Practices analysis has been conducted and the FRA determined the train crew members were compliant with railroad rules and Federal Regulations regarding HOS records, training, education, testing requirements, employee certification and handling of the train did not contribute to the cause or severity of the accident.
- A Full motive power and equipment analysis is in progress and FRA determined a mechanical failure is not conclusive to a causal factor in this derailment.
- We are unsure if any safety advisories or safety bulletins will be issued as a result of this derailment.
- No enforcement actions have been taken at this time as a result of our investigation.
- Full findings of all of the analysis and investigation details will be included in the final investigation report.

Conclusion: This investigation is still active and ongoing. The investigation team is working diligently to determine the causal factors of this derailment and bridge collapse. The team is meticulously analyzing all evidence collected thus far and continuing to collect and analyze additional evidence as it becomes available.

QUESTIONS?

Memorandum

U.S. Department
of Transportation

Federal Railroad Administration

Date: July 13, 2023 **Reply to Attn. of:**

Subject: Derailment investigation Montana Rail Link (MRL) Train M-LAUMIS1-23A near Reedpoint, MT Mile Post 52.1

From: Michael Blackwell, Railroad Safety Inspector (Motive Power and Equipment)

The Summary:

Conducted the accident investigation of M-LAUMIS1-23A at Reedpoint, Montana that occurred on June 24, 2023, at 06:30 AM MST to determine the cause of the accident. The train consisted of two locomotives and 55 freight cars. The derailment damage was observed from GATX 227317 (line 36) through UTLX 665083 (line 52) of the freight train consist. Line 36 GATX 227317 was derailed approximately 400 yards west of the bridge down a steep slope south side of the tracks. The A-end coupler from the GATX 227317 was attached to the GBRX 715113 in which was on the rail with the remainder of the train and the coupler cross key broken on both ends. There were two locomotives and 35 freight cars not derailed east of the bridge. There were three freight cars that were not derailed west of the bridge. The actual equipment damage was $587,000.00.

The investigation was conducted by the FRA MP&E safety inspector Michael Blackwell, MP&E safety inspector Brian Ramey and State of Montana MP&E safety inspector (b) (6), (b) (7)(C) (b) (6), (b) (7)(C) The investigation of all equipment involved in the derailment was thoroughly inspected for mechanical defects to determine if there was a mechanical failure. The mechanical investigation did not produce any traces of mechanical failure on any equipment at the accident site.

The Investigation:

On June 24, 2023, FRA MP&E inspector Michael Blackwell and Montana MP&E State inspector (b) (6), (b) (7)(C) arrived on scene. We received a safety briefing and track authority prior to beginning our investigation. The request for all paperwork involving the train was given to the MRL Mechanical Management team. The investigation commenced by inspecting both locomotives and 35 freight cars that were not derailed west of the bridge and the three freight cars that were not derailed on the east end of the bridge. Upon completion of the inspection of the freight cars that were not derailed our focus was to

identify the potential point of derailment (POD) and first car to derail. The evidence gathered would suggest that the POD was approximately 8 feet east of the bridge at Latitude 45.68715 N and Longitude 109.43777 W. The area on both side of tracks was extremely saturated from the record rain fall that had occurred in the past few days. Both sides of the tracks showed signs of heavy water flow. The north and south rail moved 6 inches to the east evenly with a total of 482 feet of rail movement when wheeled off to the east. The north rail was broken at a thermite joint with batter marks on the west rail approaching the bridge and the rail was laid over on its side with the ball of the rail facing north.

On June 25, 2023, FRA MP&E Safety inspector Michael Blackwell, FRA MP&E safety inspector Brian Ramey, and FRA Track safety inspector Quinn Ligon traveled to Livingson, MT to inspect 35 freight cars and two locomotives of the train M-LAUMIS1-23 again for evidence of impact marks on the wheels. Upon arrival we inspected the equipment and had the MRL train crew roll by us at 2 MPH. The inspection revealed no evidence of impact marks on the wheels. Upon completion of the inspection, we returned to the derailment site and continued our inspection at the east end of the bridge with the NTSB investigator Robert Gordon and Brotherhood of Carman Union Representative (BRC) (b) (6), (b) (7)(C) We inspected the track prior to the derailment site in which had no marks on the rail both rails indicating no potential od dragging equipment, sliding of wheels, or impact marks. The GATX 227317 that went over the broken rail north side had rail impact marks on two of the four-wheel sets.

On June 26, 2023 FRA MP&E safety inspector Michael Blackwell, FRA MP&E safety inspector Brian Ramey, and Brotherhood of Carman Union Representative (BRC) (b) (6), (b) (7)(C) conducted inspections on accessible derailed equipment that we could get to safely. We also reviewed mechanical records requested from the MRL Mechanical Team.

On July 5, 2023, FRA MP&E safety Inspector Michael Blackwell and Montana State MP&E Safety Inspector (b) (6), (b) (7)(C) conducted inspections of the remainder of the freight car body's that were pulled from the river. The car body damage was substantial due to the weight of the cars being removed by equipment and from the derailment itself. Inspected two wheels that were off the hub in which appears to be impact damage. Photos were taken and will be provided. There are eight wheels that are still unaccounted for, but it appears the river flow is reducing in hopes of finding them. The wheels and trucks pulled from the river are in a large pile. I was advised by MRL management that they will have someone on site next week to set up and roll the wheels around for a thorough inspection.

On July 11, 2023, FRA MP&E safety inspector Michael Blackwell, FRA MP&E safety specialist Zacharias Biagtan, and Montana State MP&E safety inspector (b) (6), (b) (7)(C) conducted the inspection of 42-wheel sets that were removed from the river. There were no exceptions taken for title 49 CFR 215.103 on any of the wheel sets. There are still 6-wheel sets that are not accounted for in the river. We had 12-wheel sets identified for potential further investigation for wheel rim and flange impact marks. We could not identify any of the wheel sets to freight car reporting marks or numbers. It appears that there were no frame keys on any of the freight car trucks to aid in holding them in place. Photos were taken on all the damaged wheel sets.

On July 17, 2023, FRA MP&E safety inspector Michael Blackwell received a phone call from MRL management that a broken wheel was discovered in the river. I inspected a freight car wheel that was removed from the Yellowstone River. The wheel was not complete. There were two-wheel halves that appear to have been heavily impacted on the flange of the wheel. There were no shell spots or flat spots on any portion of the rim face. It appears the wheel had broken from impact. I asked the MRL management team if any plans are in place to drag the river with a large magnet. They advised it was a good idea and would see what they could do.

On August 17, 2023, FRA MP&E safety inspector Michael Blackwell received a phone call from MRL management that two more wheels were removed from the river. Inspected the freight car wheels that was removed from the Yellowstone River. No exceptions taken to CFR 49 215.103. There are now currently two-wheel sets that are not accounted for in the river.

Conclusion:

Upon the detailed inspection of the freight train M-LAUMIS1-23 it was determined that the cause of the train derailment was not conclusive to a casual mechanical failure.

Analysis - Operating Practices:

FRA investigators reviewed Federal hours of service records (HOS), crew training records, certification required under Title 49 Code of Federal Regulations (CFR) 240 and 242, efficiency testing records for the employees involved in the derailment, track imagery recorder (TIR) footage from two trains, and unusual dispatcher reports.

Employee HOS, training, education, certification and testing records were reviewed on crew members, with no exceptions noted.

FRA inspectors obtained and reviewed track imagery recorder (TIR) footage from train M LAUMIS 123 (train 1) and a freight train that traversed the derailment site prior to the incident (E RBGSXM2 27F Train 2). No abnormalities were observed on the forwarded facing TIR cameras. When observing the TIR on Train 1, it can be seen slowing down as the train went into an undesired emergency braking application after the headend traversed the bridge.

FRA requested 30 days of unusual dispatcher reports and any undesired train handling exceptions leading up to the derailment. Analysis of the information received revealed no record of the misalignment or rough spots had been reported in the derailment area.

The event recorder reviewed from Train 1 showed compliance with track speed, railroad operating rules and federal regulations. At 06:12 am, MDT, Train 1 was traveling at 38.6 mph (recorded speed) when an undesired emergency brake application occurred due to the derailment breaking the continuity of the trains brake pipe. After the undesired emergency brake application, the head end portion of Train 1 traveled 1279.2 feet in 38 seconds.

In addition to crew interviews on Train 1, FRA investigators conducted interviews with operating crewmembers on board Train 2 that traversed the derailment site prior to the incident. Direct questions were asked to all interviewees if any of the crew members observed, felt, or took exception to the track conditions through the derailment site. No crew members observed or recalled any track disturbances.

Conclusion: FRA determined the train crew members were compliant with railroad rules and Federal Regulations regarding HOS records, training, education, testing requirements, employee certification and handling of the train did not contribute to the cause or severity of the accident.

Present Conditions

Weather Conditions as of 06/30/2023 06:00

Fahrenheit

Fahrenheit

Wind: W at 7 mph

Dew Point:

Humidity (%): 88%

Pressure: 29.82 in

Visibility: 10 mile(s)

Sunrise: 05:31

Sunset: 21:11

Sunny

Forecast Date	*Day*		*Night*	
Fri 06/30/2023		**Sunny** **Chance of Precipitation(%):** 0% **Wind:** W at 4 mph		**Clear** **Chance of Precipitation(%):** 0% **Wind:** N at 6 mph
Sat 07/01/2023		**Mostly Sunny** **Chance of Precipitation(%):** 0% **Wind:** W at 5 mph		**Partly Cloudy** **Chance of Precipitation(%):** 0% **Wind:** WSW at 9 mph
Sun 07/02/2023		**Mostly Sunny** **Chance of Precipitation(%):** 0% **Wind:** WSW at 4 mph		**Mostly Clear** **Chance of Precipitation(%):** 0% **Wind:** WNW at 11 mph

Profile

```
K   K  EEEEE  Y   Y     TTTTT  RRRR    AAA   IIIII N   N
K  K   E       Y Y        T    R   R  A   A    I   NN  N
KKK    EEE      Y         T    RRRR   AAAAA    I   N N N
K  K   E        Y         T    R   R  A   A    I   N  NN
K   K  EEEEE    Y         T    R   R  A   A  IIIII N   N
```

Train Profile for <M-LAUMIS1-23A>
(Tons per Operative Brake = 113.4)

HAZARDOUS TRAIN MAKEUP VERIFIED BY SYSTEM DEPARTING LAUREL MT
>>>>> EXCEPTIONS NOTED <<<<<

TRAIN PLACEMENT MAKEUP VERIFIED BY SYSTEM DEPARTING LAUREL MT
>>>>> EXCEPTIONS NOTED <<<<<

Train M-LAUMIS1-23A Departed LAUREL MT 06/24/23 0505 23 hr 5 min Late

```
TONS
135* XXX                  X X  XX    X    XX X                  XXX
131  XXX                 XX X  XX    X    XX X                  XXX
110  XXXX       XXXXXXX XX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
100  XXXX       XXXXXXX XX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 90  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 80  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 70  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 60  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 50  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 45  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 40  XXXX       XXXXXXXXXX X XXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 30  XXXX  XXXX XXXXXXXXXX XXXXXXXXXX XX XXXXXXX XXXXXXXXXX XXXXX
 25  XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXX
 22  XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXX
TTON        725        1894        3088        4299        5557        6235
LSAN     SS                    L           S  S        S   SS
EOC                     EE   E
TLTH        535        1187        1833        2334        2847        3132
SPEED

HIWI
```

Above profile listed from HEAD END to REAR END
Tons per operative brake calculation is accurate only
if all air brake control values are cut in.

MRL 38682

All trains must be equipped with an operative event recorder. If determined that it is not, for any reason, contact Mechanical Help Desk, NOC - Ft Worth, and be governed by instructions received.

The 'Opr Dyn Brk' column above indicates only whether or not dynamic brakes have been reported as defective. This column does not provide any information regarding dynamic brakes that may be cut out to comply with dynamic brake axle restrictions.

Totals - 47 Loads 6235 Tons 3132 Feet
8 Emptys 0 Isol
55 Cars 6235 Total Tons 3132 Total Length

Actual HpT = .0 (0 HP/6235 tons)
Scheduled HpT = 1.5

PTC Consist Information

		Adjusted
Locomotive Count (NO DP)	0	
Trailing Tonnage (CARS ONLY)	6235	
Operative Brake Count	55	
Axle Count (CARS ONLY)	220	
Total Length	3132	
Loaded Car Count	47	
Empty Car Count	8	

L Long (80 feet or longer)
S Short (45 feet or less)
A Articulated Multi-Platform
N Non-Articulated Multi-Platform
E End Of Car Cushioning

Loco Isolation:
**** Indicates change of isolation status required before departure.
VTR - LIR reporting required if changing locomotive(s) isolation status to other than what is indicated above.
INB = Inbound Isolation Status
OB = Outbound Isolation Status
RUN = Loco is ON-LINE for power - Run 1-8
ISO = Loco is OFF-LINE for power - Run 1-8 (dynamic brakes may or may not be cut-in)
DEAD = Loco is DEAD due to mechanical defect

Dyn Brk:
Dyn Brk Range: E - Extended N - Not equipped
B - Basic D - Dynamic brake equipped, RANGE UNKNOWN
S - Standard
Dyn Brk System: F - Flat T - Tapered
N - Not equipped D - Dynamic equipped, TYPE UNKNOWN

Inspections for <M-LAUMIS1-23A>

**** ATTENTION CONDUCTOR ****

<<<<<<<<<< REQUIRED INSPECTIONS TO BE PERFORMED >>>>>>>>>>

After inspection completed, if inspection specified below is a Class 1 or Class 1A, record that inspection information in TRAIN INSPECTION HISTORY section in the spaces provided (also report the inspection made by conductor for Class 1 or 1A via VTR). If inspection was not performed, contact your Dispatcher prior departure for guidance.

Location	Inspection Type	To Be Performed By

****

TRAIN INSPECTION HISTORY

Location	Inspection Type	NAME/ID	DATE/TIME	#CAR
LAUREL, MT	Class 1	(b)(6); (b)(7)(C)	06/22/23 21:40	56
LAUREL, MT	Air Brake		06/22/23 21:40	56

Class 1 air brake test and ETD test information

The originating Class 1 air brake test record is stored in the electronic records of Class 1 inspections on TRAIN INSPECTION HISTORY.

The intermediate Class 1A air brake test record is stored in the electronic records of Class 1A inspections on TRAIN INSPECTION HISTORY.

All Air Slips are stored electronically; contact the Mechanical Desk if a copy is requested by the FRA.

Coal trains are considered 'Cycle Trains' and may be operated up to 3,000 miles before an additional Class 1 Inspection is required. This does not exclude the requirement for intermediate inspections and tests (Class 1A). Crews will be notified when cycle train inspections are required (other than when adding cars en route).

Note: ETD test information provided only if performed by other than a member of the crew. The number of cars indicated in the TRAIN INSPECTION HISTORY are not required to correspond to the number of cars currently in your train due to setouts and pickups en route or due to the 'car count' method for multi-platform equipment used by the inspector.

++++++++++

90 CFM Waiver train Docket Number FRA-2012-0091

( ) Train has operated under the conditions of the 90 CFM Permanent waiver as

outlined in Air Brake and Train Handling Rules.

++

++

PREVIOUS AIR BRAKE PROBLEMS ENCOUNTERED AND/OR CARS WITH AIR CUT OUT
Should additional air brake defects be discovered
en route, note the defects on blank spaces
provided and leave this document for relieving crew.

++

Location/Comments <Milepost>	Date	Time	Car Init	Car Number	Defect Description	Set Out

++

SYSTEM HAZARDOUS AND TRAIN MAKEUP VERIFICATION FOR INFORMATIONAL PURPOSES ONLY.

++

NEWPAGE
TESTTESTTESTTESTTESTTESTTESTTESTTEST
NEWPAGE
Train M-LAUMIS1-23A HAZARDOUS/TRAIN MAKEUP VIOLATIONS departing LAUREL MT

HazMat Exception Date 0624 Time 0339
Comment: CHECK ON OUTBOUND

Car: UTLX 910024

Warning

(6) Must not be next to open top car (including bulkhead flatcar) when a
ny of the contents protrude beyond the car ends or, if shifted, would pr
otrude beyond the car ends.

Car: TILX 308328

Warning

(6) Must not be next to open top car (including bulkhead flatcar) when a
ny of the contents protrude beyond the car ends or, if shifted, would pr
otrude beyond the car ends.

Train Makeup Exception Date 0624 Time 0339
Comment: LM EXEMPT

Car: GABX 697

Warning

---

(97)********** KEY TRAIN **********
**********KEY TRAINS are not exempt from Train Makeup Rules**********

Car: TILX 33171

Warning

---

(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: MRMX 131593

Warning

---

(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: ITFX 252210

Warning

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(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: INTX 1019

Warning

---

(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: MWCX 463314

Warning

---

(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: AEX 10189

Warning

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(40) Train over 5500 tons cannot have any conventional(non-multi-platform)c ar under 45 tons within first 10 cars/platforms. Does not apply to emptybu lk commodity trains.

Car: BNSF 561323

Warning

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(79)Cars 80 feet or longer weighing less than 45 Ton must be placed in the rear 2800 tons for Westward Departure.

***** End Of Output *****

08:57:32 MDT Saturday, June 24, 2023

*** KEY TRAIN DETECTED ***

Train M LAUMIS1 23A Departed LAUREL MT 06/24/23 0505 23 hr 5 min Late

M LAUMIS1 23 Unit Train Set ID:

Car Seq	Init	Number	Car Knd	L E	Contents	Online Dest	J T	RAJP	Grs Ton	Shipper	Consignee
-- HPT --	....1....2....3....4....5....6....7....8....9....0					Lds	47				
TSP	1.5					Mty	8				
Actual	0.0					Ton	6235				
Devn	-1.0					Feet	3131				
						TOB	113.3				
						Ttl Feet	3279				

Seq	Aft Car Init	Loco Numb	Loco HP	Dyn AvlHP	Dyn Brk	Loco Brk	LXA Dir	Cum Eqp	Nbr Axl	Axl Lgth	From Tons	To Stn	Dfct Stn	Dfct LvL	Dfct Dt	Dfct Tm	Dfct Loc	Rpos C
1	MRL	4407	4300	0000	10EF+	N	WEST	6	6	74	214	LAURMT	MISSOU	I	0612	0000	FTWOR	
2	MRL	4404	4300	0000	10EF+	N	EAST	12	6	74	214	LAURMT	MISSOU	I	0614	0517	LIVINGS	
	Total	8600	0					148	428									

1	GABX	697	H6R	L	PTCOKE	MONCMT			141		ASHGROCEMENT
2	GACX	13859	H6R	L	PTCOKE	MONCMT			141		ASHGROCEMENT
3	GACX	13852	H6R	L	PTCOKE	MONCMT			142		ASHGROCEMENT
4	GABX	286	H6R	L	PTCOKE	MONCMT			126		ASHGROCEMENT
5	TILX	33171	C3G	E		MONCMT			26		ASHGROCEMENT
6	MRMX	131593	C3G	E		MONCMT			26		ASHGROCEMENT
7	ITFX	252210	CJG	E		WTOWNS			31		GRAYMOWUS
8	INTX	1019	CJG	E		WTOWNS			30		GRAYMOWUS
9	MWCX	463314	CJG	E		WTOWNS			30		GRAYMOWUS
10	AEX	10189	CJG	E		WTOWNS			32		GRAYMOWUS
11	GATX	212759	T93	L	HAZMAT	HELEMT			112		MIDSTRLPG
	>>> KEY SHIPMENT (TWENTY) <<<										
12	GATX	109862	T93	L	HAZMAT	HELEMT			112		MIDSTRLPG
	>>> KEY SHIPMENT (TWENTY) <<<										
13	UTLX	910024	T93	L	HAZMAT	HELEMT			115		MIDSTRLPG
	>>> KEY SHIPMENT (TWENTY) <<<										
14	GABX	602	H6R	L	PTCOKE	MONCMT			129		ASHGROCEMENT
15	TILX	308328	T93	L	HAZMAT	HELEMT			112		MIDSTRLPG
	US-MANIFEST-ID 305501582023 ENTRY NO. 55155308130										
	>>> KEY SHIPMENT (TWENTY) <<<										
16	TILX	306543	T93	L	HAZMAT	HELEMT			112		MIDSTRLPG
	US-MANIFEST-ID 511131582023 ENTRY NO. 55155308130										
	>>> KEY SHIPMENT (TWENTY) <<<										

(b)(6); (b)(7)(C)

17	UTLX	955925	T93	L	HAZMAT	BUTTE			113	(b)(6); (b)(7)(C)	NWPETROLEUM
>>> KEY SHIPMENT (TWENTY) <<<											
18	UP	355515	ABF	L	BBCSCR	SILBOW			92		PTMONPTAUTHO
19	LRS	141272	BCF	L	BBCSCR	SILBOW			131		PTMONPTAUTHO
20	TILX	362200	TDI	L	HAZMAT	SILBOW			141		PTMONPTAUTHO
>>> KEY SHIPMENT (TWENTY) <<<											
21	CBTX	737695	TEI	L	HAZMAT	SILBOW			141		PTMONPTAUTHO
>>> KEY SHIPMENT (TWENTY) <<<											
22	BNSF	561323	FI8	E	O63722	DEELOD			30		SUNMOULBR
23	UTLX	953002	T93	L	HAZMAT	MISSOU			112		ENERGYPARLLC
>>> KEY SHIPMENT (TWENTY) <<<											
24	TCBX	306293	TEI	L	HAZMAT	MISSOU			141		PHILLI66
>>> KEY SHIPMENT (TWENTY) <<<											
25	GBRX	703498	TDI	L	HAZMAT	MISSOU			140		PHILLI66
>>> KEY SHIPMENT (TWENTY) <<<											
26	PLMX	135442	T93	L	HAZMAT	PARAMT			121		PARADIMTRAIS
>>> KEY SHIPMENT (TWENTY) <<<											
27	TILX	309914	T93	L	HAZMAT	PARAMT			121		PARADIMTRAIS
>>> KEY SHIPMENT (TWENTY) <<<											
28	CBTX	785096	T93	L	HAZMAT	PARAMT			123		PARADIMTRAIS
>>> KEY SHIPMENT (TWENTY) <<<											
29	PROX	39302	T93	L	HAZMAT	PARAMT			123		PARADIMTRAIS
>>> KEY SHIPMENT (TWENTY) <<<											
30	GBRX	714107	T4E	L	HAZMAT	SILBOW		UP	142		JRSIMPLOT
>>> KEY SHIPMENT (TWENTY) <<<											
31	TILX	135819	T97	L	HAZMAT	SILBOW		UP	129		JRSIMPLOT
>>> KEY SHIPMENT (TWENTY) <<<											
32	PSRX	40023	GTR	L	MTLSCR	SILBOW		UP	121		PACIFIHIDFUR
33	ERCX	1001	C2P	E		SILBOW		UP	29		DRILLIMININD
34	TILX	150599	T4E	L	HAZMAT	SILBOW		UP	141		ITAFOS
>>> KEY SHIPMENT (TWENTY) <<<											
35	GBRX	714113	T4E	L	HAZMAT	SILBOW		UP	142	(b) (6), (b) (7)(C)	RSIMPLOT
>>> KEY SHIPMENT (TWENTY) <<<											
36	GATX	227317	T4F	L	HAZMAT	SILBOW		UP	130		FREEPOMCMSIE
>>> KEY SHIPMENT (TWENTY) <<<											
37	GATX	227355	T4F	L	HAZMAT	SILBOW		UP	141		TESSENKERLEY
>>> KEY SHIPMENT (TWENTY) <<<											
38	UTLX	665072	T98	L	HAZMAT	SILBOW		UP	126		DAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
39	UTLX	644827	T98	L	HAZMAT	SILBOW		UP	126		DAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
40	UTLX	664879	T98	L	HAZMAT	SILBOW		UP	126		DAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
41	TILX	136042	T98	L	HAZMAT	SILBOW		UP	128		TAFOSCONLLC

>>> KEY SHIPMENT (TWENTY) <<<										(b)(6); (b)(7)(C)	
42	UTLX	641341	T98	L	HAZMAT	SILBOW		UP	126		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
43	UTLX	661234	T98	L	HAZMAT	SILBOW		UP	125		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
44	UTLX	644859	T98	L	HAZMAT	SILBOW		UP	125		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
45	GATX	69298	T98	L	HAZMAT	SILBOW		UP	128		JRSIMPLOT
>>> KEY SHIPMENT (TWENTY) <<<											
46	CGTX	13864	T98	L	HAZMAT	SILBOW		UP	128		JRSIMPLOT
>>> KEY SHIPMENT (TWENTY) <<<											
47	PSRX	40026	GTR	L	MTLSCR	SILBOW		UP	121		PACIFIHIDFUR
48	UTLX	664891	T98	L	HAZMAT	SILBOW		UP	126		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
49	UTLX	644868	T98	L	HAZMAT	SILBOW		UP	125		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
50	UTLX	644873	T98	L	HAZMAT	SILBOW		UP	126		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
51	UTLX	641354	T98	L	HAZMAT	SILBOW		UP	126		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
52	UTLX	665083	T98	L	HAZMAT	SILBOW		UP	126		IDAHOASPSUPP
>>> KEY SHIPMENT (TWENTY) <<<											
53	MCEX	350076	CXG	L	CHEMPD	MISSOU			142		HEXION
US-MANIFEST-ID 337631652023 ENTRY NO. 55129917882											
54	AGHX	96037	CXG	L	CHEMPD	MISSOU			142		HEXION
US-MANIFEST-ID 808171652023 ENTRY NO. 55129917858											
55	EFNX	160713	CXG	L	CHEMPD	MISSOU			142		HEXION
US-MANIFEST-ID 223061642023 ENTRY NO. 55129917833											
56	MRL	38682	ETD			HELEMT					

Train Totals 55 Cars 47 Loads 8 Empties 6235 Tons 3132 Feet

(55 Railcars) 113.4 TOB Avg 148 Loco

0 RSSM Car Count 3280 Total

Haz Totals:

Haz Railcars 35 Cars 35 Loads 0 Empties 4431 Tons 2009 Feet

Haz Containers - 0 Haz Vans - 0

Bare stanchions - 0 Bare tables - 0

Count	20	28	35	40	42	45	48	50	52	53	65	Total
Cont	0	0	0	0	0	0	0	0	0	0	0	0
Van	0	0	0	0	0	0	0	0	0	0	0	0

(Aggregating up to)

Slot Utilization: Slots Avl Slots Used Slot Pct Slots Open

Train Totals:.....	0	0	0.0	0
Conventional Cars:...	0	0	0.0	0
Articulated Cars:....	0	0	0.0	0
Stacked Cars:.....	0	0	0.0	0

Display Train List

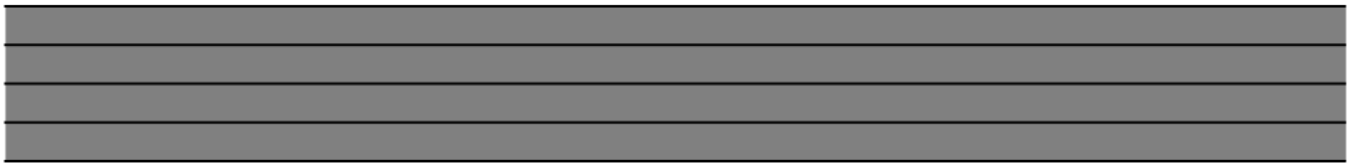
Final Dest City St	Next YdBlk	Scheduled Train	From Stn	To Stn	SCHI	ME	STCC	C R	Cum Axl	Num Axl	E C	L S

pos	Rpos	Rpos	Rpos	Loco	Mfr	Svc	Eff	Maint	Fgn		Jcd			Spd	Shop	Pgm	TSS
d	From	To	Dt	Tm	Class	Modl	Type	Ftr	Contr	Sys	RCE	Cab	Bst Jcd	Desc		Rstr	Flg	Nme
TH TX						SD70ACE	YRD	0		F	Y		F026	PAST DUE QMI				WOCNLOI
STO MT						SD70ACE	YRD	0		F	Y		F026	PAST DUE INSPECTION			N	WOC

MONCITY MT		CP ARRIVE	LAURMT	HELEMT			2991314		16	4		
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			2991314		20	4		
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			2991314		24	4		
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			2991314		28	4		
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			3241115	E	32	4		S
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			3241115	E	36	4		S
WTOWNSEND MT		CP ARRIVE	LAURMT	HELEMT			3274110		40	4		
WTOWNSEND MT		CP ARRIVE	LAURMT	HELEMT	TG		3274110		44	4		
WTOWNSEND MT		CP ARRIVE	LAURMT	HELEMT			3274110	E	48	4		
WTOWNSEND MT		CP ARRIVE	LAURMT	HELEMT			3274110	E	52	4		
HELENA MT		CP ARRIVE	LAURMT	HELEMT	FGTN		4905752	E	56	4		
HELENA MT		CP ARRIVE	LAURMT	HELEMT	FGTN		4905752	E	60	4		
HELENA MT		CP ARRIVE	LAURMT	HELEMT	FGTN		4905752	E	64	4		
MONCITY MT		CP ARRIVE	LAURMT	HELEMT			2991314		68	4		
HELENA MT		CP ARRIVE	LAURMT	HELEMT	FGXUEITN	EI	4905421	E	72	4		
HELENA MT		CP ARRIVE	LAURMT	HELEMT	FGXUTN		4905421	E	76	4		

BUTTE MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905419	E	80	4		
SILBOW MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	DV		4021240	E	84	4	E	
SILBOW MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT			4021240	E	88	4	E	
SILBOW MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	FLTN		4909152	E	92	4		
SILBOW MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	FLTN		4909152	E	96	4		
DEELODGE MT	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	CA				100	4	E	L
MISSOULA MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905419	E	104	4		
MISSOULA MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FLTN		4909152	E	108	4		
MISSOULA MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FLEITN	EI	4909152	E	112	4		
PARADISE MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905752	E	116	4		
PARADISE MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905752	E	120	4		
PARADISE MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905752	E	124	4		
PARADISE MT	MISSOU	M LAUMIS1 23A	LAURMT	HELEMT	FGTN		4905752	E	128	4		
DON ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	132	4		
DON ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	136	4		S
SIMCO ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT			4021122		140	4		
OSINO NV	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT			1471110	E	144	4		
EPCO ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	148	4		S
DON ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	152	4		
SAHUARITA AZ	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	CMTC		4935204	E	156	4		
MICHAUD ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	CMTC		4935204	E	160	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	164	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	168	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	172	4		
EPCO ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	176	4		S

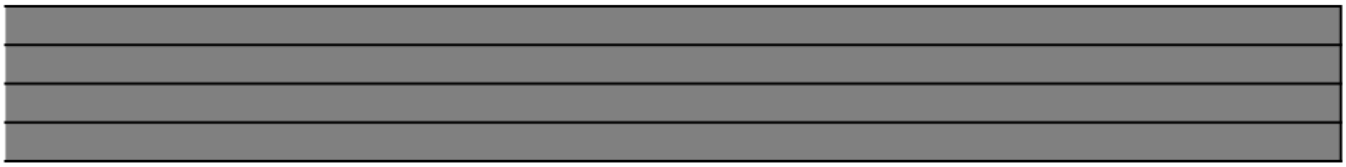
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	180	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9EITN	EI	4961605	E	184	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	188	4		
DON ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	192	4		S
DON ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4945770	E	196	4		S
SIMCO ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT			4021122		200	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	204	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	208	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	212	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	216	4		
COLLINS ID	GARRMT	M LAUMIS1 23A	LAURMT	HELEMT	N9TN		4961605	E	220	4		
MISSOULA MT	MISSO1	M LAUMIS1 23A	LAURMT	HELEMT	XULV		2818170	E	224	4		
MISSOULA MT	MISSO1	M LAUMIS1 23A	LAURMT	HELEMT	XULV		2818170	E	228	4		
MISSOULA MT	MISSO1	M LAUMIS1 23A	LAURMT	HELEMT	XULV		2818170	E	232	4		
HELENA MT				HELEMT								S

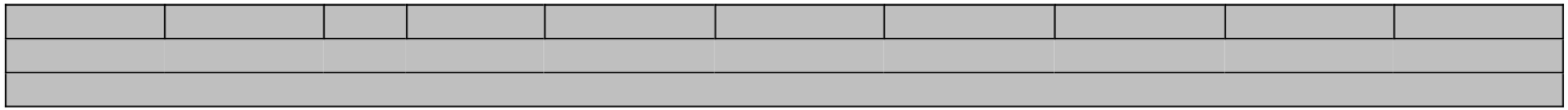


Ft	In	Trn Seq	BNSF PoolID	A B	ZTS	Permit/ Request#	Well Pos	Ydblk	Trn Blk	J P	Goal Hrs	Rem Hrs	Want Day	Vessel Name	Sail Date	
	Next															
	Train		Train													
DP M LAUMIS1 23A																
CNLODP M LAUMIS1 23A																
53	1	3	P0000	WA	418201			HELEMT	HEL		169	79				
53	1	4	P0000	WA	418201			HELEMT	HEL		179	89				
53	1	5	P0000	WA	418201			HELEMT	HEL		169	79				
53	1	6	P0000	WA	418201			HELEMT	HEL		150	79				
41	11	7	0		418201			HELEM1	HEL	F	183	-7				
41	11	8	P0000		418201			HELEM1	HEL	F	183	-7				
59	4	9	P0000		305605			HELEM1	HEL	F	183	-7				
60	0	10	P0000		305605			HELEM1	HEL	F	183	-7				
59	11	11	P0000		305605			HELEM1	HEL	F	183	-7				
60	0	12	P0000		305605			HELEM1	HEL	F	183	-7				
68	10	13	P0000		427101			HELEMT	HEL	F	153	-14				
67	05	14	P0000		427101			HELEMT	HEL		196	81				
72	07	15	P0000		427101			HELEMT	HEL		196	81				
53	1	16	P0000	WA	418201			HELEMT	HEL		161	90				
68	10	17	P0000		427101			HELEMT	HEL	F	315	-86				
68	10	18	P0000		427101			HELEMT	HEL	F	315	-86				

67	01	19	P0000		914301			GARRMT	GRR	F	306	-201				
57	3	20	P0000		920801			GARRMT	GRR	M	312	73				
67	11	21	P2927		920801			GARRMT	GRR	M	372	82				
59	09	22	P0000		920801			GARRMT	GRR	F	244	-15				
60	00	23	P0000		920801			GARRMT	GRR	F	222	-15				
80	5	24	P5193		940701			GARRMT	GRR	G	123	39	0626			
67	01	25	P0000		625101			MISSOU	MIS	F	247	-201				
60	02	26	P0000		621101			MISSOU	MIS	F	188	-53				
59	10	27	P0000		621101			MISSOU	MIS	F	188	-53				
69	10	28	P8240					MISSOU	MIS	G	191	72				
68	10	29	P0000					MISSOU	MIS	G	191	72				
65	07	30	P0000					MISSOU	MIS	G	170	72				
67	01	31	P8228					MISSOU	MIS	G	170	72				
47	05	32	P0000					GARRMT	GRR		173	81				
42	06	33	P0000					GARRMT	GRR		196	81				
53	1	34	P0000	EB				GARRMT	GRR	G	201	15				
49	0	35	P0000					GARRMT	GRR	F	216	-63				
44	11	36	P0000					GARRMT	GRR		147	81				
47	05	37	P0000					GARRMT	GRR		147	81				
48	11	38	P0000					GARRMT	GRR		147	81				
48	11	39	P0000					GARRMT	GRR		147	81				
55	05	40	P0000					GARRMT	GRR		148	81				
55	05	41	P8219					GARRMT	GRR		148	81				
55	05	42	P0000					GARRMT	GRR		148	81				
42	06	43	P0000					GARRMT	GRR		148	81				

55	05	44	P0000					GARRMT	GRR		148	81				
55	05	45	P0000					GARRMT	GRR		148	81				
55	05	46	P0000					GARRMT	GRR		148	81				
42	01	47	P0000					GARRMT	GRR		154	81				
42	06	48	P0000					GARRMT	GRR		154	81				
53	1	49	P0000	EB				GARRMT	GRR	F	218	-232				
55	05	50	P0000					GARRMT	GRR		167	81				
55	05	51	P0000					GARRMT	GRR		167	81				
55	05	52	P0000					GARRMT	GRR		167	81				
55	05	53	P0000					GARRMT	GRR		167	81				
55	05	54	P0000					GARRMT	GRR		167	81				
59	0	55	P0000		622501			MISSO1	MIS		215	57				
59	0	56	P0000		622501			MISSO1	MIS		215	57				
56	0	57	P0000		622501			MISSO1	MIS		215	57				
		58														





Montana Rail Link

TIMETABLE

NO. 21

IN EFFECT 0001
CONTINENTAL MOUNTAIN TIME

September 13, 2021

WE WILL NOT COMPROMISE

Each of us must:

Commit to believing we can run our railroad without injuring our employees.

Believe that injuries are not acceptable, and all injuries are preventable.

Accept the responsibility for the safety of our employees. Likewise, each employee must accept the responsibility and accountability for their own safety and the safety of their colleagues.

Expect, Encourage and Allow

Believe the safe accomplishment of a task is more important than the task itself.

Recognize when a job is done well and done safely.

Engage our fellow employees in safety, every day.

Understand the direct relationship between housekeeping, facility appeal and attitude toward safety.

Prepare our employees by demonstrating commitment, mentoring, interviewing, counseling, teaching, listening, training, equipping, auditing, supporting, empowering, reinforcing, caring

Work safely, as this is a condition of employment.

Where^2 & What^2 Checklist

1. Where am I right now?

2. Where has my attention been?

3. What do I need to focus on right now?

4. What is my next safety-critical task?

Contents

INTRODUCTION

SYSTEM SPECIAL INSTUCTIONS

- **INSERT SYSTEM SPECIAL INSTRUCTIONS SUPPLEMENT SIGNAL ASPECTS AND INDICATIONS JULY 11, 2019**

- **RETAIN THIS SUPPLEMENT FOR USE WITH FUTURE TIMETABLE SPECIAL INSTRUCTIONS**

- **ASPECTS SHOWN IN RULES 9.1.3 THROUGH 9.1.8 AND 9.1.13 MAY BE DISPLAYED ON SIGNALS WITH OR WITHOUT A NUMBER PLATE ON THE SIGNAL MAST.**

SYSTEM SPECIAL INSTRUCTIONS

1. SPEED RESTRICTIONS:

All speeds are subject to modifications by speed restrictions indicated under Individual Subdivision Special Instructions most restrictive speed will apply.

A. MAXIMUM SPEED PERMITTED

Trains up to 100 TOB..... 60 MPH
Trains 100 TOB and over..... 45 MPH
Exception: Trains consisting entirely of passenger equipment..... 60 MPH
... 55 MPH
Key Trains..... 50 MPH
Designated Gasoline Trains..... 50 MPH
Foreign trains arriving at interchange not in compliance with MRL train make-up restrictions..... 45 MPH
Light locomotive consist or caboose hop..... 60 MPH
Unit Crude Oil / Ethanol Trains, loaded, with helpers/DP cut-in..... 30 MPH
55 MPH
Unit trains, empty coal..... 60 MPH

Unit trains, empty other, unless otherwise restricted by manifest..... 60 MPH
Exception: Solid military equipment train, loads or empties..... 55 MPH
Solid Windmill Blade Equipment Trains, loads or empties..... 55 MPH
On tracks other than main tracks, including sidings, unless otherwise specified..... 10 MPH
Within Mechanical Department Limits..... 5 MPH
On or off turntables, thru doorways, gates and close clearances..... 1 MPH

Unless defined differently in the Individual Subdivision Special Instruction, tons per operative brake (TOB) is defined as the gross trailing tonnage of the train divided by the total number of control valves.

B. TEMPERATURE SPEED RESTRICTIONS:

Crew members must ascertain ambient temperatures prior to departing on-duty location to determine if temperature speed restrictions apply. Trackside warning device transmissions will then be used to determine ambient temperatures once en route.

Operating employees may only consider ambient temperature readings from trackside warning devices triggered by the passage of the train they are operating.

Loaded unit crude oil / ethanol or designated gas trains:

When the ambient temperature is at or above 90 degrees Fahrenheit or at or below 0 degrees Fahrenheit, maximum speed must not exceed 40 MPH.

All other trains:

When the ambient temperature is at or above 90 degrees Fahrenheit, maximum speed must not exceed 45 MPH.
When the ambient temperature is at or below minus 10 degrees Fahrenheit, the maximum speed must not exceed 50 MPH.

C. EQUIPMENT SPEED RESTRICTIONS:

	MAIN LINE	BRANCH LINE
(MRL specific equipment)		
Wrecking derrick, MRL 100256	35 MPH	25 MPH
Locomotive crane	30 MPH	25 MPH
Exceptions: MRL 100502-100503 (Jimbo material handlers)		40 MPH
Friction bearing cars MRL 100011, 100193, 100245, 100263,		25 MPH

Equipment	Main	Branch
Side dump ballast cars, car kind YHA and YHH, loaded	45	45
AMTK 1400-1569 (material handling cars)	60	60
Balfour Beatty machines, RKCX 103, 104, 105, 106, 467, 476, 3005	45	45
Boeing cars, loaded, BNSF 800100-800135, MTTX 978384, 978576, 978596, 978644, 978649, 978660, 978781, 979162, 980855, 981187, 981218	45	45
Clay cars, RARW 3801-4199	45	45
Flatcars, empty, NP 580400-580739	50	50
Flatcars, empty, bulkhead wallboard: BN 616475-616674, CS 616375-616474 DJTX 9300-9398, SOU 115250-115274	45	45
Flatcars, empty, bulkhead, Picked up enroute and	45	45
Flatcars, empty or loaded, OTTX 93561, 97852, 97861, 97914, 97920	45	45
Flatcars, loaded with track panels, ATSF 190298, 209144, 209149	35	35
FL Log Cars (empty)	45	45
Gondolas, empty, KCS 801011-802930, CR 576026-579245	45	45
Gondolas, empty, Picked up enroute and not on	50	50
Gondolas, empty or loaded, PC 598500-598999 CR 598500-598990, SP 345000-345699	45	45
Herzog clip cars, HZGX 153, 154, 155	50	50
Herzog MPM Machines, HZGX 164-207	55	55
Hopper cars, covered, empty, (unless no speed restriction is indicated by train documentation) ASGX 1-50, LCEX 801-820, BCAX 50-149, LCEX 824-898, CGLX 4200-4249, NAHX 21000-21054, CRDX 3000-3014, NAHX 29700-29867, CRDX 9905-9989, NAHX 320000-320399, CRDX 9755-9904, NCUX 20001-20050, CRDX 20100-20199, NCUX 20106-20130, CRDX 20200-20209, NRLX 32500-32605, CRDX 20300-20324, NRLX 32706-32725, CRDX 20525-20724, NVCX 9500-9619, CSXT 242000-242299, NS 294220-294319, DME 29000-29324, RGCX 650-899, DJLX 97300-97319, RGCX 902-1067, FLOX 3200-3241, RGCX 1069-1142, FLOX 983400-983414, RGCX 1183-1222, GACX 3000-3139, SDWX 9700-9919, GACX 3150-3196, SDWX 10000-10333, GACX 3202-3359, SDWX 11000, GACX 3486-3510, SHPX 432118-432137, GACX 7959-8008, SHPX 432057-432116, GCCX 55000-55099, WW 7001-7300	45	45
Hopper cars, empty, WFAX 84654-84700 TUGX 36001-36125	45	45
Loram, 400 and 300 series and Harsco rail grinder, traveling (not in work mode) as a train on its own power with a conductor or engineer pilot	50	50
Loram, 400 series and Harsco rail grinder, when controlling movement from the rear control cab in the lead.	50	50
Loram, 300 series rail grinder when controlling movement from rear control cab in the lead speeds when operating on descending grades.	40	40
Loram, LMIX 203, 204, 409, 410, 412, 414, 415, 417, KMUX 110, 750 Loram, LMIX 418, when moving coupled with MW tool cars, must remain coupled to such cars. No shoving movements are to be made with the above Loram equipment in a train consist.	50	45

Equipment	Main	Branch
Ore cars, empty, 35 ft., OLB 1000-1099	50	50
Ore cars, loaded, 35 ft., OLB 1000-1099	45	45
P811, BNSF 922999	50	50
Plasser machines,PACX 293, 2630, 2645, 3024,4656, 4657, 4774, 4775	45	45
Plasser THS 2000, tie gang consist	30	30
Plasser 08 & 09 Tampers, PTS 61, 62 & 90 Stabilizers, BDS 100 & 200 Ballast machines, MFS40 & 60 cars and ULS3000 conveyor cars (traveling in a train or under own power with a conductor or engineer pilot)	50	50
Ribbon rail cars, empty	45	45
Ribbon rail cars, loaded	35	25
Ribbon rail loading and unloading cars	45	45
Roadrailer equipment (empty or loaded)	60	60
Rotary plow, wrecking derrick, locomotive crane, pile driver or Jordan spreader handled in trains Exception: locomotive cranes/pile drivers ATSF 199454-199468 Exception: Jordan spreader, BNSF 939800 - 939804 Trains and engines handling this and similar equipment which is moving on its own running gear must operate through the curved side of turnouts at a speed not exceeding one-half the maximum authorized speed for that turnout. 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 roadmaster or covered by specific instructions.	30 45 50	25 45 50
Scale test cars Exception: cars listed below have a minimum gross weight of 100,000 lbs. and may move in any position in the train and at maximum authorized speed for which the train is qualified. BN 979020-979024, BN 979026, BNSF 979019, FGWX 100000-700000, MP 15507, MP 15510-15512, UP 167579, UP 900700, UP 903600, WWBX 199917-199919	35	25
Schnabel type cars, empty (cars listed 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) APWX 1004, BBCX 1000, CCRX 40010, CEBX 100, 101, CPOX 820, EXEX 1016, GEX 80000, 80002, 80003, HEPX 200, KRL 204000, 204001, 204002, KWUX 10, 101, 102, 301, MAMX 1001	40	40
Tank cars, ACFX 17451-17495, NATX 10841-10865	45	45
Tank cars, DVLX 4001-4190, UTLX 76517, 76539, 76556, 76558, 76568, 76595, 76649, 76656, 76696, 76733, 76736-76738, 76742-76745, 76747, 76748, 76750, 76751, 78256-78269, 78272, 78274, 78278, 78281, 78285, 78287- 78293, 78326, 78328-78333, 78336-78340, 78343, 78344, 78347, 78348, 78350. 78353	40	40
Tank cars, empty, CORX	50	50
Tank cars, loaded, CELX 6400-6455, 10400-10443 (must not be handled nearer than 6 cars from locomotive when loaded)	45	45
Wedge plow or dozer, hauled in tow	35	25

D. CONTROL OF HARMONIC ROCKING:

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, the following restrictions apply when operating on jointed rail:

Freight trains, other than coal trains, ballast 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.

2. LOCOMOTIVE RESTRICTIONS / INSTRUCTIONS:

Anytime a crew experiences a defect to a locomotive in their consist, they are required to report the condition to the train dispatcher. The dispatcher will then notify the proper terminal so proper arrangements can be made.

When experiencing BNSF locomotive problems online and assistance is needed, you can contact the BNSF Mechanical Help Desk while on the road channel by following these steps:

1. Determine Dispatcher call-in Code. (I.E. Reed Point 37)
   in between call-in Code. (I.E. - Reed Point 397)

4. Wait 10 seconds.

6. Repeat every few seconds, if necessary.
7. After communication with BNSF Mechanical is complete, press # and last digit of call-in code. (I.E. Reed Point - #7)

Due to high horsepower, some locomotives equivalent (rated) powered axles or equivalent dynamic brake axles may exceed the actual axle count. See Table A on next page for rated powered axle (RPA) and dynamic brake axle conversions.

Except where otherwise specified by Individual Subdivision Special Instructions, head end locomotive consist, including helpers/DP, may not exceed:

42 equivalent rated powered axles (RPA) (ABTH 102.11).

28 equivalent dynamic brake axles, unless further restricted by another rule or Special Instruction (ABTH 103.2.1).

Excess axles must be isolated. Exception: Loaded Unit trains may have 30 equivalent dynamic brake axles

Locomotives coupled together in multiple-unit (MU) configurations must be limited to 12 locomotives.

Locomotive maintenance: Employees must close locomotive doors, latch windows and close fresh air intakes on trailing units.

MRL GP9, GP35, and SW1200 (13, 14, 16, 17) locomotives not equipped with Traction Motor Protection (TMP), must be isolated when in a consist with any AC locomotives in the lead position.

A. LOCOMOTIVE DATA TABLES:

DC Traction Locomotives

Model	Rated Powered Axles (RPA)	Rated Dynamic Brake Axles	Horsepower	Weight (Tons)
SW1	4	0	600	99
SW10	4	0	1,000	125
NW10	4	0	1,200	126
SW12	4	0	1,200	125
SW15	4	0	1,500	131
MK1200G	4	0	1,200	125
SWBL-W	4	0	1,500	131
GP7	4	0	1,500	125
GP9	4	4 *	1,750	130
GP9B	4	0	1,750	124
GP10	4	0	1,800	130
GP15, GP15-1	4	0	1,500	129
GP18	4	0	1,800	124
GP20	4	4 BT	2,000	131
GP28 M/P	4	4 BF	1,800	130
GP30	4	4 BT	2,500	131
GP35	4	4 BT	2,500	133
GP38, GP38-2	4	4 ET	2,000	143
GP39, GP39-2	4	4 EF #	2,300	135
GP40 M, E-2	4	4 BF	3,000	139
GP40X	4	4 BF	3,000	139
GP50	4	4 EF	3,600	138
GP53, GP53L	4	4 EF	3,000	136
GP60M	5+	5 EF +	3,800	137
GP60B	5+	5 EF +	3,800	135
B23-7	4	4 EF	2,300	134
B30-7A	4	4 BF	3,000	138
B36-B-7	6+	4 EF	3,600	140
B-39-8	6+	5 EF +	3,900	140
B-40-8	6+	5 EF +	4,000	142
SD7	6	5 BF +	1,500	157
SD9	6	5 *	1,750	184
SD18	6	0	1,800	175
SD35	6	5 * #	2,500	175
SD38-2	6	6 * #	2,000	184
SC38P	6	6 BF	2,000	196
TEBC6	6	6 B	2,000	194
SD39	6	6 EF	2,500	195
SD40, SD40-2	6	6 EF * #	3,000	196
SD45, SD45-2	6	6 ET	3,600	198
SD50	6	6 EF	3,600	194
SD60, SD60M	7+	8 EF **+	3,800	201
SD70M	7+	9 EF +	4,000	200
SD75M	7+	9 EF +	4,300	197
C30-7	6	6 EF #	3,000	209
SF30C	6	6 EF	3,000	160
C36-7	6	6 EF	3,600	197
C40-8	7+	8 EF +	4,135	197
C44-9W	8+	8 EF +	4,400	196 / 210
ES44DC	8+	8 EF +	4,500	210

AC Traction Locomotives

Model	Rated Powered Axles (RPA)	Rated Dynamic Brake Axles	Horsepower	Weight (Tons)
C44AC[1] AC4400CW[1] AC4400EV[1] & C60/44AC[1]	8+	10 EF+	4,400	210
1 TM c/o	8+	8 EF+		
2 TM c/o	6	6 EF		
3 TM c/o	4	5 EF		
4 TM c/o	3	3 EF		
5 TM c/o	2	2 EF		
C60[1] C60AC[1]	8+	12 EF+	6,000	210
1 TM c/o	8+	10 EF+		
2 TM c/o	8+	8 EF+		
3 TM c/o	6	6 EF		
4 TM c/o	4	4 EF		
5 TM c/o	2	2 EF		
ES44AC[1]	8+	10 EF+	4,400	208
1 TM c/o	8+	10 EF+		
2 TM c/o	8+	8 EF+		
3 TM c/o	6	6 EF		
4 TM c/o	4	4 EF		
5 TM c/o	2	2 EF		
SD70MAC	8+	8 EF	4,000	208
1 Truck c/o	4	5 EF		
SD70ACE	8+	10 EF+	4,300	208
1 TM c/o	6	6 EF		
SD70ACE4(1)	8+	8 EF+	4,300	210
1 TM c/o	6	6 EF		
2 TM c/o	4	4 EF		
3 TM c/o	2	2 EF		
SD70ACT4(1)	8+	8 EF+	4,300	210
1 TM c/o	6	6 EF		
2 TM c/o	4	4 EF		
3 TM c/o	2	2 EF		
SD80MAC	8+	10 EF	5,000	210
1 Truck c/o	5+	5 EF		
SD90/43MAC	8+	10 EF	4,300	208
1 Truck c/o	4	6 EF		
SD90MAC	8+	11 EF	6,000	208
1 Truck c/o	6			
ES44C4[1] AC44C4M[1]	8+	8 EF+	4,400	208
1 TM c/o	6	6 EF		
2 TM c/o	4	4 EF		
3 TM c/o	2	2 EF		
ET44C4[1]	8+	8 EF+	4,400	214
1 TM c/o	6	6 EF		
2 TM c/o	4	4 EF		
3 TM c/o	2	2 EF		

+	Power or dynamic brake axle rating exceeds actual working axles
*	May not be equipped with dynamic brakes
#	May be equipped with standard range dynamic brake
**	UP 6000-6059 are rated at 6 dynamic brake axles
1	GE Locomotives (C44AC, C60AC, etc.) have one inverter per axle and can have individual traction motors cut-out as with DC locomotives
2	Dynamic braking is operational with Inverters/Traction motors cut-out on AC locomotives
3	Convertible unit to be upgraded to 6,000 hp

Note: DC locomotives preferred option is to cut-out the basic dynamic brake(s) on trailing locomotive(s) utilizing extended range dynamic brakes to their fullest extent.

B - Basic
BT - Basic tapered
BF - Basic flat
ET - Extended range tapered
EF - Extended range flat

Note: It is permissible to cut out traction motors or trucks on units equipped with locked axle protection (GE AC, GE C40-8, GE C44-9 and EMD AC locomotives) in order to comply with the above axle limitations. All locomotives rated at less than 3,800 hp are g

B. FUEL CONSERVATION:

Fuel must be conserved whenever possible.
All MRL locomotives in any consist not needed for the required HPT must be isolated complying with ABTH Rule 106.1.

Locomotives moving in light consists must isolate the maximum number of locomotives, complying with haul-in-tow restrictions and ABTH Rules 106.1.1 and 106.2.

Do not isolate units on Z trains. All units must stay online unless isolated for mechanical failure.

C. HAULED-IN-TOW:

A hauled-in-tow locomotive is any locomotive without the MU air hoses (Main Reservoir and Actuate) being coupled for control by the controlling locomotive.

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. (Example: If two locomotives are coupled for MU operation, there must not be more than four locomotives hauled-in-tow.)

Locomotives not MU coupled to the head end or helper consist (hauled-in-tow), must have the Dead Engine feature cut-in and if possible be placed not more than 15 cars behind the head end consist to ensure the brakes release. If other placement is required, release of the brakes must be ensured.

D. ALIGNMENT CONTROL COUPLERS OR BOLSTER STOPS:

Locomotives not equipped with alignment control couplers or bolster stops must be handled in the following manner.

Exception: These instructions do not apply on MRL 1st Subdivision between Laurel and Billings:

Trains consisting of 15 cars or less No placement restrictions.

Trains of more than 15 cars Must have the rear locomotive equipped with an alignment control coupler or bolster stop if there are more than 18 equivalent powered axles in the locomotive consist and the trailing tonnage exceeds 5,000 tons. When more than one locomotive not equipped with alignment control couplers or bolster stops is hauled-in-tow, they must not be coupled together and must be placed no nearer than 5 or more than 15 cars from the head end consist.

The following MRL locomotives are not equipped with alignment control couplers or bolster stops:
MRL 13 thru 17, MRL 120.
Refer to ABTH Rule 101.17 for foreign line locomotives not equipped with alignment control couplers

E. ACCELERATED START EQUIPPED:

Some MRL GP-9 operation performance.

The 2-

only during switching movements not exceeding 10 MPH.

F. SD70ACe RADIAL TRUCK EQUIPPED:

Because SD70ACe units are equipped with radial trucks, couplers can be easily mis-aligned and cross-coupled resulting in platform damage. Take extra precaution when coupling these units on other than straight track.

3. MANNED HELPER / DP OPERATIONS:

Note: Road Foreman may post notices at local terminals to supersede manned helper/DP System Special Instructions and Individual Subdivision Special Instructions.

Locomotives used in helper/DP service must be equipped with alignment control couplers or bolster stops, except a single non-equipped locomotive may be used when placed between locomotives which are so equipped.

When helpers/DP are added to the head end consist, a head end device (Mary) must be on the controlling or lead unit. When unmanned helpers are added to the point of a train, two man crews are prohibited from double heading the train.

Refer to ABTH Rule 102.12.3 (NOTE)

When helpers/DP are added to the rear of a train, a buffer of at least one car is required between the helper/DP and any single level flat car weighing less than 45 gross tons, except bulkheads, center beams and multiple platform cars with rear platform loaded. Bulkheads must exceed 3 feet high.

The following equipment must not be placed immediately ahead of any helper/DP:

a. .
b. 2-axle scale test cars.
c. 2-axle front-runner cars (TTOX car kind QA and TTFX car kind QDE).
d. Any caboose.

Trailing Tonnage

For purposes of determining trailing tonnage in mountain grade/heavy grade territory, any non-powered (dead, isolated, etc.) locomotive(s), being handled behind the last powered unit in a consist, will be considered as part of the trailing tonnage.

Unless Individual Subdivision Special Instructions specify otherwise, the following placement restrictions apply to helper/DP operations: (Use Locomotive Data Tables, Section 2A, to determine equivalent powered axle rating.)

a. Helpers/DP of 8 RPA or less May be operated at the rear of a train without any long car restrictions on any subdivision. Except for loaded bulk commodity unit trains, when rear helper/DP unit is AC locomotive, 125,000 pounds of tractive effort must not be exceeded.

b. Helpers/DP of 8 to 16 RPA May be operated at the rear of a train as outlined in Individual Subdivision Special Instructions.

c. Helpers/DP exceeding 16 RPA Must be cut into the train, unless otherwise specified by Individual Subdivision Special Instructions.

The crew must determine by formula the proper location to cut into the train:

No. of cars (unit trains) or tonnage (any train) X (1/2 cut in RPA + head end RPA)= Tons or cars ahead of cut-in helper/DP total RPA

Other formulas may be used to place helpers/DP provided cut-in location is the same. The cut-in location as determined by the formula may be adjusted by +/- 1,000 tons.

Do not exceed 24 RPA in helper/DP service except where specified by Individual Subdivision Special Instructions.

Exceptions-Loaded Unit Trains:

Helpers/DP cut into loaded unit trains must not exceed 32 RPA, except where specified by Individual Subdivision Special Instructions.

Helpers/DP at the rear of loaded unit trains must not exceed 24 RPA.

Note: DP units must be included in the total RPA of rear end helper.

d. When a helper consist is added to the head end of a train, both the road and helper units must be added together in calculating total RPA and will then be considered as a single consist.

e. Not more than 24 RPA can be used in a head end consist when helpers/DP are cut into or operated at the rear of a train.

Exceptions:
Not more than 32 RPA can be used in the head end consist of coal trains, coke trains or other unit trains consisting steel couplers, when helpers/DP are cut into or operated at the rear of a train.

f. For purposes of helpers/DP shoving on buffers as required by Individual Subdivision Special Instructions:
- FI8 cars showing as long cars on train profile will be considered less than 80 feet long.
- Isolated locomotives on the head end of the helper/DP consist may be included as part of the required buffer tonnage. However, where circumstances require the engineer to monitor limitation of amperage or tractive effort, the controlling helper unit must not be isolated.

4. TRAIN MAKE-UP AND RESTRICTIONS ON CARS AND EQUIPMENT:

A car or piece of equipment may be listed under more than one restriction category.

All westbound merchandise trains over 4,300 tons must have 10 conventional loads on the head-end.
Conventional load is defined as: Any car weighing over 45 tons - except Boeing cars that are 80 feet or longer must weigh over 100 tons.
Exceptions: Any MRL Laurel originating trains that terminate on MRL are exempt from the 10 conventional loads on the head-end.

A. HEAD END ONLY:

The following equipment must be placed next behind locomotives on the head end of trains, except as instructed by the employee in charge when such equipment is used in local or work train service or in trains consisting entirely of MW equipment:

- Boeing Cars Except when necessary to comply with long car restrictions and train makeup restrictions.
- MRL 100256 and idlers (Wrecking Derrick).
- MRL 100502 and 100503 (Jimbo Material Handlers).
- MRL 100050 (Training Car).
- MRL 100203, 100204, 100205 and 100206 flatcars

B. REAR END ONLY:

The following equipment must be placed next ahead of caboose or at rear of cabooseless trains, except in local or work train service or when otherwise provided by proper authority:

Balfour Beatty machines, RKCX 103, 104, 105, 106, 467, 476, 3005	Herzog MPM:
Dozers	HZGX 164, 165
Empty ribbon rail cars (if moving with no train list or if identified as "Rear End Only" on train list)	167
Friction Bearing cars: MRL 100011, 100193, 100245, 100263, 100461, 100984	169, 1690
Jordan spreaders	170, 1700
Locomotive Cranes: MRL 100301, MRL 100855	171, 1750
Loram, LMIX 203, 204, 409, 410, 412, 414, 415, 417, KMUX 110, 750	172, 1720
Loram, LMIX 418, when moving coupled with MW tool cars, must remain coupled to such cars	173, 1730
MRL Remote Control caboose(s) when being transported in a train	174, 1740
Outfit cars: Exception: Univans may be placed anywhere in the train	175, 1750
P811, BNSF 922999	176, 1760
Pile drivers	177, 1770
Plasser machines, PACX 293, 2630, 2645, 3024, 4656,4657, 4774, 4775	178, 1780
Plasser THS 2000, tie gang consist	179, 1790
Rear end only cars	180, 1800
Retired passenger equipment: Exception: MRL 101 (Silver Cloud), 102 (Articulated car), 103 (Power car), 104 and 105 (Dome cars)	181, 1810, 18100
Ribbon rail loading and unloading cars	182, 1820
Rotary snowplows	183, 1830
Wedge plows	184, 1840
	185, 1850
	186, 1860
	187, 1870
	186, 1860
	187, 1870
	188, 1880
	189, 1890, 18900

HZGX	190, 1900, 19000
	191, 1910, 19100
	192, 1920, 19200
	193, 1930, 19300
	194, 1940, 19400
	195, 1950, 19500
	196, 1960, 19600
	197, 1970, 19700
	198, 1980, 19800
	199, 1990, 19900
	200, 2000, 20000
	201, 2010, 20100
	202, 2020, 20200
	203, 2030, 20300
	204, 2040, 20400
	205, 2050, 20500
	206, 2060, 20600
	207, 2070, 20700
	208, 2080, 20800
	209, 2090, 20900
	210, 2100, 21000
	211, 2110, 21100
	212, 2120, 21200
	213, 2130, 21300

Scale test cars, except as provided in Item 1, must be placed ahead of a caboose or, on cabooseless trains, ahead of the last car.
Note: Trains entering MRL track from a foreign railroad that are not in compliance with MRL head end only or rear end only restrictions as outlined above may proceed to the next terminal. Such trains are restricted to 45 MPH unless further restricted by manifest and must then be brought into compliance with MRL Special Instructions before they are allowed to depart the terminal.

C. YARD/SWITCHING OPERATIONS:

Following cars must not be humped, cut-off in motion, used in switching movements or struck by any car moving under its own momentum:

- MRL 3, 4, and 5 (garbage containers).
- MRL 100050 (Training car), 100502 and 100503 (Jimbo material handlers)
- MRL 100203, 100204, 100205 and 100206 flatcars
- MRL 101 (Silver Cloud), 103 (Power car), 104 and 105 (Dome cars), MRL 102 (Articulated cars).
- Boeing cars.
- Maintenance of Way tool cars, locomotive cranes, idlers, equipment cars and loaded panel flats.
- Passenger or outfit cars.
- Cabooses. Exception: switching while in RCL mode with an equipped caboose is acceptable providing the caboose does not couple to cars, only the locomotive, unless authorized by a Trainmaster.

Following cars must not be moved without using air and must have the air brakes cut-in:

- MRL 101, 102, 103, 104, 105, 100050.

Following cars must not be humped or cut-off in motion unless there is someone controlling the movement of the cars by use of the handbrake. Cars must not be coupled with more force than necessary to make the coupling, not exceeding 2 MPH:

- Multi-platform or stack cars.
- Cabooses.

Loaded auto racks must not be humped, cut-off in motion, or struck by any car moving under its own momentum.

Maintenance of Way Kershaw, P811, Loram and Plasser machines moving coupled with Maintenance of Way tool cars must remain coupled.

Hand brakes on the DODX 40000-40100 must not be used to control movement and must be applied from a ground position while car is standing.

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When multi-platform or stack cars have two or more consecutive empty platforms, switching movements must be made with no more than 12 equivalent powered axles.

5. TRAIN OPERATIONS:

When 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 practicable, boom must be trailing. Such equipment must be inspected before being moved.

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

Key Train Securement:

Crew members must communicate to the train dispatcher:
the number of hand brakes applied
tonnage and length of the train
grade and terrain of the track
relevant weather conditions
type of equipment secured, and
the controlling locomotive cab doors are locked and reverser is removed

The dispatcher is required to record the
procedures have been followed.

When equipment is left unattended on a main track or siding outside of a yard or terminal that includes any of the following:
One or more tank car loads of any one or combination of materials poisonous by inhalation as defined in 49 CFR 171.8 and including:
- o Anhydrous ammonia (UN 1005)
- o Ammonia solutions (UN 3318);

20 rail car loads or intermodal portable tank loads of any one or any combination of materials listed in (1) above, or, any:
- o Division 2.1 flammable gas
- o Class 3 flammable liquid or combustible liquid
- o Class 1.1 or 1.2 explosive
- o Hazardous substance listed in 49 CFR 173.31 (f) (2).

Crew members must communicate to the train dispatcher:
the number of hand brakes applied
tonnage and length of set out cars

grade and terrain of the track
relevant weather conditions
type of equipment secured

The dispatcher is required to record the information; and must verify and confirm procedures have been followed.

Except in case of emergency or mechanical failure, key trains or rail car(s) meeting the definition of a key train may not be left unattended at the following locations:

2nd Subdivision MP 117.2 to MP 134.4
3rd Subdivision MP 5.0 to MP 29.0
10th Subdivision MP 0.8 to MP 18.8

Note: These requirements do not apply when a portion of the train or car(s) is left properly secured and the on-duty crew is:

Picking up, setting out, or repositioning cars at an industry,
Switching cars to/from tracks adjacent to main track or siding,
Adding, removing, or repositioning locomotives, or
Moving part of a train when doubling a hill or cutting crossings.

If an unattended train requires emergency response and an emergency responder is called, and if the responder has been on, under, or between the equipment, train must be re-inspected for proper securement by a qualified MRL/BNSF employee before being left unattended.

A. DESIGNATED GAS AND LOADED UNIT CRUDE OIL / ETHANOL TRAINS:

Designated loaded gas trains and loaded unit crude oil / ethanol trains uniquely identified by train symbol, manifest or

d

in Hazardous Material Instructions and additional provisions as follows:

****NOTE****

The following instructions apply to any unit train made up entirely of Class 3 flammable liquids and a designated loaded gas train. Crews must report to the train dispatcher if they are assigned to a Key Train to which these instructions apply.

-MNSTAC**7**-21A; G-MNSPAS**7**-09.

Meeting loaded unit crude oil / ethanol or loaded gas trains:

A loaded unit crude oil / ethanol or loaded gas train will hold the main track if a main track is available. **Third Subdivision exception: loaded unit crude oil / ethanol trains may use Elliston Siding.** Instructions for meeting loaded unit crude oil / ethanol or loaded gas trains on adjacent tracks are as follows:

For the purposes of these instructions, an adjacent track will be any track adjacent to a main track or other than main track occupied by a loaded unit crude oil / ethanol or loaded gas train. All sidings in single main track territory and main tracks in double or multiple main track territory will be considered adjacent.

All trains affected will be notified by the dispatcher, yardmaster, or authorized employee on duty when there will be a meet with a loaded unit crude oil / ethanol train or loaded gas train depending on location, time of day, etc. as follows:

- Missoula - arriving and departing trains notified by yardmaster.
- Helena - arriving and departing trains notified by authorized clerk or Trainmaster on duty.
- Livingston arriving and departing trains notified by dispatcher.
- Laurel arriving and departing trains notified by yardmaster.
- Billings arriving and departing trains notified by dispatcher or authorized clerk or Trainmaster on duty.
- All other locations all trains at meeting points will be notified by dispatcher.

When trains meet a loaded unit crude oil / ethanol train or loaded gas train, one train must be stopped and the other must pass at restricted speed until its head end has passed the rear car of stopped train. The stopped train may then proceed when it has authority to do so.

- **Exception**: When passing an unmanned train parked online, this speed restriction will not apply.

Any train being met by a loaded unit crude oil / ethanol or loaded gas train that was notified of a potential defect by a track side warning device or a roll-by inspection or experienced an emergency application of brakes for any reason must complete an inspection of their entire train before the loaded unit crude oil / ethanol or loaded gas train may be allowed to pass.

Loaded unit crude oil / ethanol or loaded gas train inspections en route:

A crew operating a loaded unit crude oil / ethanol or loaded gas train instructed by the train dispatcher/control operator to inspect their train due to track indication(s) must promptly stop the train consistent with good train handling procedures and inspect both sides of the entire train. During inspection, particular focus must be given to wheels, axles, trucks, or other parts of the train that may cause track damage.

When conditions permit, inspection is to be performed while the train is moving, not exceeding 5 MPH, to afford the inspector opportunity to hear a defect, such as a broken wheel. To complete inspecting the entire train, inspection may also be performed while backing up not exceeding 5 MPH when all requirements of GCOR 6.6 (Back-Up Movements) can be met.

When a side or portion of the train cannot be inspected safely, train may be moved at a speed not exceeding 5 MPH to a location which permits safe inspection of both sides.

Notify the train dispatcher/control operator of any defects and when inspection is complete.

B. EXTRA LOCALS:

The following reporting procedures are to be followed when extra local crew performs work train service and/or ballast train service:

Train Crews

At the beginning of each tour of duty, the crew will communicate with the train dispatcher notifying the work to be performed for that day.

All crews called in extra local service that perform work train or ballast train service, must fax or scan a train list and work or scanned to the following locations for proper reporting of cars.

Extra locals working between **Huntley and Livingston** must scan or fax train list to Laurel Yard.(FAX No. 406-628-3257)

Extra locals working between **Livingston and Garrison**, including **Fifth, Sixth, Seventh** and **Thirteenth Subdivisions** must scan or fax a list to Helena Yard. (FAX No. 406-447-2333)

Extra locals working between **Garrison and Sandpoint** including **Ninth, Tenth** and **Eleventh Subdivisions** must scan or fax a list to Missoula Yard. (FAX No. 406-523-1522)

Maintenance of Way

at least 24 hours in advance for a manifest to be activated for proper reporting of work done.

6. CAR WEIGHT AND LENGTH RESTRICTIONS AND CAR WEIGHT CATEGORIES:

Cars Weighing:

a. 89 tons or less must be at least 35 feet long.
b. 89.01 to 110 tons must be at least 38 feet long.
c. 110.01 to 134 tons must be at least 44 feet long.
d. 134.01 to 143 tons must be at least 52 feet long.
e. 110 ton ore cars must be at least 24 feet long. (BN 95500-95891, BN 96044-96085)
f. 110.01 to 134 ton ore cars must be at least 35 feet long. (BN 99000-99949)

Note: Ballast cars, MRL 110001-110047 and MRL 110085-110099 and air dump cars MRL 100990-100996 are exempt from restrictions **a** through **f**.

Actual car weight may exceed the maximums by up to 1 ton, due to weighing tolerances.

Weights indicated represent the maximum gross weight of a 4 axle car. Length of cars is measured from coupler face to coupler face.

Cars in categories **a**, **b**, **c** and **d** are permitted on all main tracks, unless otherwise specified in Individual Subdivision Special Instructions.

Cars that are heavier than these restrictions or shorter than the minimum length specified for their weight class, are not permitted without authority of the Director of Structures.

Loaded ore cars in categories **e** and **f** are not permitted unless explicitly stated in Individual Subdivision Special Instructions.

Commodities loaded in cars other than those specified in categories **e** and **f** are subject to restrictions in categories **a**, **b**, **c** and **d**.

Car Restrictions:

separated from the locomotive and from other cars weighing more than 143 tons by at least one car weighing no greater than 143 tons.
One train may contain up to ten cars weighing over 143 tons and up to 157.5 tons with separation meeting the single car movement definition noted above.

Indicated weight limits are applicable to either single car or multiple car movements except for:
at 143 tons are permitted for multiple car movements but weights over 143 tons and up to 157.5 tons can be accepted for single car movements.
d without special authorization

7. EXCEEDING ENGINE, CAR WEIGHT AND LENGTH RESTRICTIONS:

Exceeding the engine, car weight and length restrictions on each subdivision may only be done with the approval of the Chief Engineer. This approval must be documented on the proper form and this form will serve as the movement authorization message. The proper form can be obtained through the Director of Structures.

A. HANDLING LONG CARS COUPLED TO SHORT CARS:

During either throttling or braking, trailing tonnage may cause lateral forces sufficient to cause a derailment, when cars 80 feet or longer are coupled to cars 45 feet or shorter and the grade and track curvature exceed certain limitations. To avoid creating such conditions, trains greater than 3,000 trailing tons must handle empty cars 80 feet or longer coupled to cars 45 feet or shorter in the rear 3,000 tons, unless otherwise provided in Individual Subdivision Special Instructions.

Where the total tonnage of cars 80 feet or longer is so large that it is impossible to comply with Individual Subdivision Special Instructions, the train consist must instead be arranged so that all cars less than 80 feet are handled in the required rear tonnage, thus placing all long-car to short-car couplings in the safe tonnage area.
The tonnage di

Instructions pertaining to handling long cars coupled to short cars do not apply to multi-platform or stack cars.

B. HANDLING 80 FEET AND LONGER CARS:

Long car restrictions are listed under Individual Subdivision Special Instructions.
FI8 and M3F cars showing as long cars on train profile will be considered less than 80 feet long.
MRL 100020-100032 when empty will be considered as weighing less than 45 gross tons regardless of train list information.

C. MULTI-PLATFORM AND STACK INTERMODAL CARS:

These cars are authorized for movement on tracks with weight limit of 88.5 tons or more.

When multi-platform or stack cars have two or more consecutive empty platforms, they must be placed in the rear 4,000 trailing tons.

Blocks of 20 or more loads (Avg. 100 tons or more per car) must not be handled behind multi-platform or stack cars with two or more empty platforms.

The following multi-platform equipment must be handled in the trailing 3,000 tons of a train:

Empty front-runner, two axle cars (TTOX, car kind QA) and empty units multi-platform two axle cars (TTAX car kind QDE).
Solid and QL).

Multi-platform cars can have different size wheels at different locations on the car. When reporting the wheel size of this equipment, indicate the size of the specific wheel involved.

Multi-platform Equipment All Types and Single Unit Intermodal Equipment TOB Car Count

For TOB calculation purposes, trough cars are counted as 6 cars each divided by total weight of the car. Refer to

on handling this equipment.

Note: Multi-platform (articulated or non-articulated) intermodal equipment (other than coal multi-platform equipment) is identified with an initial and number and its individual units identified by a letter designation. Individual units of multi-platform solid drawbar-connected (non-articulated) coal equipment are identified as individual cars with a unique initial/number for each unit. Not all conventional intermodal equipment is listed in the table.

Car Kind Codes

Car kind codes are usually 3 characters. On cars shown in the table, only the first two characters are required to identify car type, with the exception of CSX, M3F and QDE.

Definitions of Multiple-Unit Equipment

Articulated Refers to cars with multiple units (segments) that are connected with articulated couplings that share a common truck.

Non-Articulated Refers to cars with multiple units (segments) that are connected with solid drawbars. Each unit is a stand-alone unit and does not share a common truck with another unit.

TSS Car Kind Codes	Car Description	Units or Segments	Maximum Car Length	Axle Count	Control Valves and/or Car Count	Trailers=T Containers=C Either=T/C
Articulated Cars						
QY	Doublestack	5	308 ft.	12	3	C
QV	Doublestack	3	190 ft.	8	2	T/C
QM	Spine Car	3	189 ft.	8	2	T/C
QC	Spine Car	3	189 ft.	8	2	T
QO	Spine Car	5	291 ft.	12	3	T/C
Q5	Spine Car	5	291 ft.	12	3	C
QE	Spine Car	5	291 ft.	12	3	T
FM	Twin Flat	2	88 ft.	6	2	C
M3F	Automax	2	144 ft.	6	2	
CSX	Superhopper	5	167 ft.	12	3	
HT	Trough Car	13	279 ft.	26	3/6#	
Non-Articulated Cars*						
QW	Doublestack	3	215 ft.	12	3	T/C
QX	Doublestack	4	286 ft.	16	4	T/C
QT	Doublestack	5	359 ft.	20	5	C
QB QD	Twin Flats	2	186 ft.	8	2	T
QL	Twin Flat	2	186 ft.	8	2	T/C
QDE	Front-Runner	4	188 ft.	8	4	T
Single Unit Intermodal Cars						
QU	Doublestack	1	72 ft.	4	1	T/C
QA	Front-Runner	1	51 ft.	2	1	T
QK	Doublestack	1	72 ft.	4	1	T/C

Tons Per Operative Brake (TOB)

Tons per operative brake on cars above are determined by dividing the number of control valves/car count into the weight of the car.

8. DIMENSIONAL AND SPECIAL SHIPMENT RESTRICTIONS:

All employees involved in handling dimensional or special shipments must be familiar with and are governed by these instructions:

Note:

the car.

a. Any dimensional and/or oversize car or special shipment must be accompanied by one of the following: message BNSF Clearance Bureau.

b. 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 crew members from complying with GCOR 1.47. When yard supervisors are notified of expected arrival of wide cars, precautions must be taken to safeguard employees and equipment in yard.

c. Before a dimensional shipment is picked up on line, crew members must obtain permission from the train dispatcher. When dimensional or special shipment is set out on line, crew must notify train dispatcher as soon as practical.

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

e. Train with dimensional shipment must not meet or be passed by a train unless authorized by the train dispatcher or proper safeguards taken.

f. To provide for close observation en route, all dimensional shipments must be placed in a block next to the lead locomotive consist, or due to the following exceptions, as near the lead locomotive consist as possible:

- Dimensional shipments, including idler cars moving with dimensional shipments, must be placed in compliance with minimum weight requirements outlined in train make up rules and Individual Subdivision Special Instructions.
- Trains received from foreign railroads with dimensional shipment placement other than described above, may proceed to a location specified by train dispatcher to correct the condition.
- When dimensional shipment is a shiftable load, GCOR 1.37 applies.

Boeing dimensional shipments, identified as having contents ACFTEQ on the train list, must be placed ahead of other dimensional shipments. Trains with one or more dimensional Boeing shipments with contents ACFTEQ, are limited to a combination not to exceed 10 loads and/or empties.

The following idler cars DO NOT count towards the 10 car combination limitation:

BNSF 800010 to BNSF 800013	BNSF 800039	MTTX 971493	MTTX 978594	MTTX 980261	TTMX 80662
	BNSF 592506 to BNSF 592508	MTTX 971505	MTTX 978674	MTTX 980917	TTMX 80681
BNSF 800020		MTTX 971532	MTTX 978696	MTTX 981602	TTMX 80760
BNSF 800022	BNSF 592510 to BNSF 592512	MTTX 971785	MTTX 978770	TTMX 80139	TTMX 80857
BNSF 800023		MTTX 971868	MTTX 978773	TTMX 80300	TTMX 80858
BNSF 800025 to BNSF 800036	BNSF 592515	MTTX 978311	MTTX 978950	TTMX 80635	TTMX 81115
	MTTX 971384	MTTX 978462	MTTX 979264	TTMX 80657	

These are specialized Boeing Service idler cars weighing 45 tons or more and may be billed loaded, or empty, depending on destination. Trains handling all empty dimensional Boeing cars with contents ACFTEQ are limited to maximum of 25.

Note: In the application above, FTTX flat cars and autoveyors (car kinds M2F and M3F) are not considered dimensional shipments.

No more than six uncovered, assembled airplane fuselages may be transported in a train without approval from Boeing.

Trains received from foreign railroads, with Boeing cars (with contents ACFTEQ on the train list) placed behind loads to comply with BNSF train make-up instructions, may continue across MRL without repositioning the Boeing cars to the head end.

g. Employees are prohibited from riding excessive dimension cars.

h. Train crews handling dimensional and/or oversize car or special shipment car(s) approaching locations controlled by the train dispatcher and where these car(s) are restricted, should communicate with the train dispatcher and jointly determine if a meet or pass of any other equipment at the restricted location(s) can be accomplished safely.

i. at a specific location, the following will apply:

Stop the train before passing the location specified.
Check the dimensional load for shifted contents.
If safe to proceed without damage to shipment or property, move beyond the specified location on instructions from an employee(s) closely observing the shipment, not exceeding 5 MPH until the dimensional shipment clears the location specified.
If employee(s) is unable to continue observing the shipment closely due to train make up, topography, etc., movement may continue, not exceeding 5 MPH until the dimensional shipment clears the location specified.

j. obtain a clearance wire for the car. If unable to obtain clearance wire, the car must be set out.

Exceptions:

MRL 100502 and MRL 100503 (Jimbo Material Handlers) and MRL 100301, MRL 100855 (Locomotive Cranes) and MRL 100409, MRL 100410 (idler car) appear on wheel reports as restricted account Dimensional and Special Shipments Restrictions. These cars may move with no dimensional restrictions.

MRL 100203, 100204, 100205 and MRL 100206 flatcars (loaded or empty) appear on wheel reports as restricted dimensional shipments. When moving loaded or empty, these cars may move with no dimensional restrictions.

k. Dimensional loads that originate or terminate on the 5th, 6th, 7th, 9th, 11th or 13th subdivisions and are wider than must be measured by the Mechanical Department and approved by the Director of Structures prior to movement. This approval must be documented on the proper form and this form will serve as the movement authorization message for that load. The proper form can be obtained through the Director of Structures.

9. TRACK SIDE WARNING DEVICES:

A. DEFECT DETECTORS:

Wide load detectors (WLDs) are devices that detect excessive dimensions on cars, locomotives, and lading. These detectors protect railroad structures such as bridges and tunnels.

Failed equipment detectors (FEDs) are devices that detect hot bearings, hot wheels, and dragging equipment on cars and locomotives.

Wheel Impact Load Detectors (WILD) are devices that detect excessive wheel impacts on the rail.

These detector types are located beside the track at locations identified in Individual Subdivision Special Instructions. Some locations have more than one type of defect detector in service e.g. A detector location identified as FED/WLD performs the inspection functions of a Failed Equipment Detector AND a Wide Load Detector.

1. GENERAL INSTRUCTIONS FOR ALL DEFECT DETECTORS:

Blowing or swirling snow from passing trains can prevent FEDs from obtaining an accurate reading. Reduce speed to the extent necessary to allow the detector to scan the train. Do not exceed 20 MPH over the next forward detector if

present.

When operating conditions allow, avoid excessive braking, stopping, or reducing train speed below 8 MPH when approaching or passing detectors. Excessive braking may cause false indications on detectors. Speeds below 8 MPH may cause 'Integrity Failure', 'Slow Train' or inaccurate axle count.

Except in an emergency, do not use radio when train is within 150 feet of the detector or until entire message has been received from that detector.

Train crew must be alert for and monitor detector radio reports, if repeat code is needed, it must be used before the rear of the train has traveled two miles beyond the detector.

When a FED message transmits an axle count which is 4 or more axles different from the wheel report, inspect the train to determine the discrepancy if:

FED passed after initial terminal departure.

-or-

If the axle count discrepancy can be determined by contacting an employee who has access to the last AEI reading, train inspection is not required.

of structure until detector indicates there are no defects, and an integrity failure was not received.

B. DETECTOR MESSAGE TYPES:

A four second warning tone is transmitted when a defect is detected.

A detector message is a message that communicates the status of the defect detector.

Detector messages may describe detector failures such as:

A defect message is a message that communicates train defect details that may require inspection.

Defect messages may describe more than one defect such as:

FED -

FED -

FED -

WLD -

WILD -

ALL -

C. GENERAL DEFECT INSPECTION:

When detector/defect message requires an inspection:

oth sides.

complete the required inspection **IF**:

Train is not a KEY train.
Indicated axle/wheel location will not pass over a switch and/or defect location will not pass the protected structure.
It is not the second defect detector activation on the same car.
A visual observation of the train indicates no smoke, flame or abnormal amount of dust.
The train does not require excessive power to continue movement.

Exception: If dragging equipment defect is indicated, stop train immediately, consistent with good train handling. Make walking inspection per GCOR 6.29.2.

Exception: Inspection must be completed before the indicated defect reaches the structure being protected by a WLD.

If the inspection does not confirm a defect, inspect at least 8 axles to the front and rear of the indicated axle. If no defect or indication of overheating is found, train may proceed. Crew must observe the indicated equipment closely for the next 30 miles unless the next detector does not give an alarm on the same axle.

If overheating or defect on the same equipment is detected by 2 successive detectors, the identified equipment must be set out of train.

Exception: If overheating or defect detected involves a locomotive, the locomotive need not be set out if inspection by a supervisor, mechanical inspector or the engineer reveals no defect. If the detected locomotive is operating on a loaded crude, ethanol or gas train, then the locomotive must be inspected by mechanical inspector or set out before proceeding.

Mechanical forces on duty at next terminal, connecting crew members or supervisor must be informed of condition when unable to locate failed equipment on locomotive.

Engineer will report to the train dispatcher when an FED failed to detect an overheated bearing found within 30 miles of the detector. Train dispatcher will notify the signal department to have the detector inspected.

KEY TRAIN EXCEPTION:

Excerpt from USHMI Section VII KEY TRAINS

4. Instructions for Operating Key Trains - Item d.

d. When a defect in a Key Train is reported by a Wide Load Detector (WLD) but a visual inspection fails to confirm evidence of a defect, the train must not exceed 30 MPH until it has passed over the next wayside detector or is delivered to a terminal for a mechanical inspection. If the same car sets off the next detector or is found to be defective, it must be set out from the train.

When a Key Train is stopped by a Failed Equipment detector, after inspection the indicated car (HazMat or not) must be set out.

When a car is required to be set out:

Move the car not exceeding 10 MPH to the nearest location where it can be set out unless a different location or speed is specified by the train dispatcher.

Note the type of defect on proper tags and attach tags, one on each side of the car.

Notify the train dispatcher.

D. DETECTOR SPECIFIC DEFECT INSPECTION:

Failed Equipment Detector (FED) messages for **Hot Box or Hot Journal**:

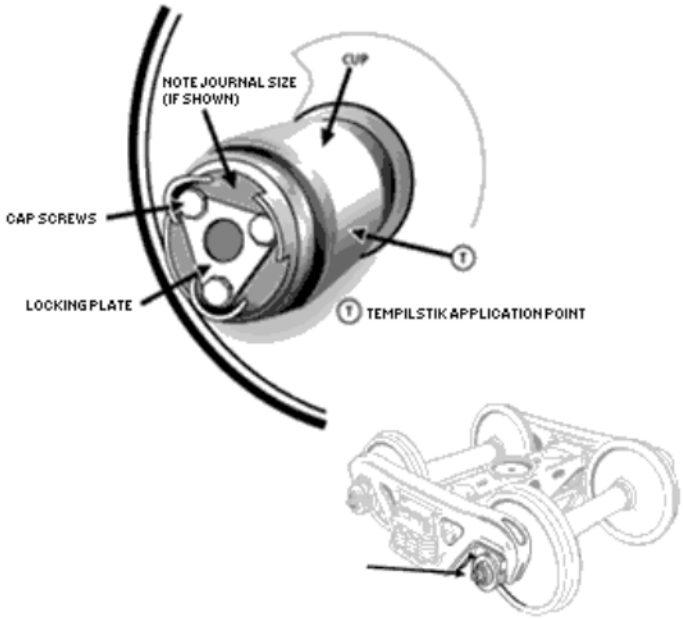
Inspect a car for a hot journal identified by axle count as follows:

Mark the journal bearing as shown below with a Tempilstik or Thermomelt crayon (both 200 and 163 temps are included in Thermomelt crayons issued by MRL)

200 degree (red) Fahrenheit crayons will be used to test the temperature of roller bearing journals.

Exception: 163 degree (blue) Fahrenheit crayons will be used when outside temperature is below 32 degrees Fahrenheit.

Set the car out if the overheated journal bearing melts the mark made with the temp stick



If there are no obvious signs of overheating:

If any journal is significantly warmer than other journals on the car, set the car out.

Set out any car that experiences two consecutive hot box detector actuations, even if the inspection reveals no hot journal. However, passenger equipment and business cars do not need to be set out if the inspection reveals no hot journal.

Failed Equipment Detector (FED) messages for **Hot wheel indication**:

Immediately reduce to 30 MPH. (Key Trains must stop after clearing the detector and inspect)

Stop and inspect at a designated location within 30 miles as specified by the Train Dispatcher.

The train must not operate over a bridge with a through truss structure or through a tunnel.

If the train passes a second hot wheel detector within 30 miles and receives no defects, the train may proceed at maximum authorized speed.

If the train receives a defect on the same car at the second detector, stop the train and inspect.

If the crew is required to stop and inspect, the following applies:

Ensure that all hand brakes on car are released.
Ensure that the retainer valve is in the exhaust position.
Inspect for sticking air brakes. Cut out air brakes if necessary to release brakes
Inspect all wheels on the identified car.
During inspection check wheels for flat spots and tread build-up. If a wheel on a piece of equipment has tread build-up or a flat spot more than 2-1/2 inches long, or if the wheel has adjoining flat spots that are each at least 2 inches long, the equipment must be set out.

A car identified with a flat spot or tread build-up may remain in a train if the car is inspected by a qualified mechanical inspector and released for movement.

Wide Load Detector (WLD)/Failed Equipment Detector (FED) messages for **Shifted Load or Dragging Equipment:**

When detector/defect message requires an inspection:

Inspect only the side of train specified in the message; if neither side is specified, inspect both sides.
Movement may proceed, not to exceed 5 MPH, for the distance necessary to reach the indicated defect (axle count) or to complete the required inspection.
Exception: Inspection must be completed before the indicated defect reaches the structure being protected by the WLD.
If the inspection does not confirm a defect, inspect at least 8 axles to the front and rear of the indicated axle.

Wheel Impact Load Detector (WILD) messages for **Wheel Defect:**

The detector will transmit total high impact wheels detected for the entire train followed by each individual impact including the Level of each impact. Car initial and number (when available) along with total car count from head end of train including the locomotives will follow. For Level 2 impact defects, the specific wheel location on the indicated car may also be announced. WILD detectors will only transmit wheel defect messages, otherwise crews should expect no response.
When detector/defect message requires an inspection:

For either Level 1 or Level 2 impacts, stop the train and inspect indicated car for damaged wheel.

If safe to move, limit train speed to 10 MPH and set indicated car out at next available location, unless a different location is specified by the train dispatcher.

Crews receiving a detector and/or defect message use the following two tables to determine crew response:

Table I

Detector or Defect Message	Type of Train	Type of Detector		
		Failed Equipment Detector (FED)	Wide Load Detector (WLD)	Wheel Impact Load Detector (WILD)
Detector Out of Service per Track Bulletin or Mandatory Directive Integrity Failure Train too Slow Detector Malfunction	All trains	1*	6	N/A
Maintenance Required	All trains	1	1	N/A
Integrity Failure or Detector Malfunction AND any defect message or tone received	KEY trains	3	4	N/A
	Other than KEY trains	2	2	N/A
Hot Box or Hot Journal defect	KEY trains	3	N/A	N/A
	Other than KEY trains	2	N/A	N/A
Hot Wheel or Wheel defect	All Trains	2	N/A	7
Dragging Equipment defect	KEY trains	3	N/A	N/A
	Other than KEY trains	2	N/A	N/A
High Wide defect	KEY trains	N/A	4	N/A
	Other than KEY trains	N/A	2	N/A
No message or incomplete message**	All trains	5	6	N/A

** Radio recall available at all detector locations

Table II

Action #	Detector Failure - Required Action
1	Train may proceed unless other conditions or messages require inspection. Report message to Train Dispatcher. Key trains do not exceed 30 MPH Within 30 miles of the failed detector, one of the following conditions must be complied with: a. Train passes other detector(s) that checks for all of the same defects. All of the same defects must be checked for within the 30 miles. b. Crew may establish rollby inspection of the train by qualified employees located on both sides of the train. Speed must not exceed 10 MPH during this inspection. c. Stop the train and make a rollby inspection of the train by crew members located on the ground. Speed must not exceed 10 MPH during this inspection. Roll-by inspection may be made on one side. A walking inspection (Back Up Movement) may be used to make inspection of the opposite side. d. The train dispatcher may choose to stop the train and have the crew make an inspection of the entire train. e. Stop and inspect the entire train when the next consecutive detector that checks for any of the same defects fails.
2	Stop train; inspect near indicated axle/wheel.
3	Stop train; inspect near indicated axle/wheel. Set out indicated regardless of finding defect (hazmat or not).
4	Stop train; inspect near indicated axle. If no defect. proceed not exceeding 30 MPH to next detector.
5	Stop train as soon as possible consistent with good train handling and inspect ENTIRE train.
6	Trains approaching the protected structure must stop and inspect entire train before reaching protected structure. When an inspection is required, train may be moved not to exceed 5 MPH to assist making inspection. **EXCEPTION**: Trains moving away from the protected structure must stop and inspect entire train ONLY if receiving a DEFECT message, otherwise proceed. Trains receiving a detector message other than "No Defects" must report a detector malfunction to the Train Dispatcher.
7	Do not exceed 10 MPH and proceed to nearest set-out location to set out indicated car.

10. SHUNTING THE TRACK

A. COMMODITIES INSULATING TRACK IN CTC AND ABS:

Employees should be alert for insulating commodities such as clay, chips, oil, etc. on top of rails. When on the rail, these materials can insulate the track and cause loss of train shunt. Such conditions should be promptly reported.

B. SINGLE UNIT LIGHT ENGINE

When a train sets out all cars en route and becomes a single unit light engine within CTC or ABS territory, the train dispatcher must be notified.

C. MOVEMENTS CONSISTING OF LESS THAN 12 AXLES

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.

11. POWER ASSISTED SWITCHES, REMOTELY RADIO CONTROLLED:

All remote requests will receive a voice acknowledgement.

When traversing radio controlled
following:

Facing Point Movements

Movement must immediately stop consistent with good train handling techniques.
Malfunctioning switch must be reported immediately to:

- Laurel Yardmaster for Laurel switches.
- Train Dispatcher for Livingston switches.
- Helena Clerk for Helena switches.
- Missoula Yardmaster for Missoula switches.

Yardmasters or clerks will then notify the dispatcher, who will notify the signal maintainer.
Malfunctioning switch must be inspected. A qualified person must observe the switch and ascertain that the switch is lined properly for the intended route and the switch points are not gapped.
Once inspected the train may be instructed to proceed under observation not exceeding 5 MPH until the train has completely traversed the switch.
After equipment clears, the malfunctioning switch must be inspected and repaired prior to another train traversing the switch.

Trailing Point Movements

Movement over the switch may continue.
Malfunctioning switch must be reported immediately to:

- Laurel Yardmaster for Laurel switches.
- Train Dispatcher for Livingston switches.
- Helena Clerk for Helena switches.
- Missoula Yardmaster for Missoula switches.

Yardmasters or clerks will then notify the dispatcher, who will notify the signal maintainer.
After equipment clears, the malfunctioning switch must be inspected and repaired prior to another train traversing the switch in a facing point movement only.

Hand pump (manual) operation

Failure/Fault messages broadcast during hand pump operation must be disregarded.

pumped, apply the appropriate handling for the direction of movement (facing/trailing point).

Train crews must remain on the broadcast channel for any radio controlled switches being traversed. It is permissible to use a hand held radio to monitor other channels when required.

Trains or engines arriving or departing must visually ascertain and communicate with other crews, if any, prior to activating these switches to ensure no movements are on or near the switch when activated.

Switches equipped with track occupancy circuitry, prevent switch movement while occupied. Attempts to throw the switch must be made from not less than 50 feet away for a facing point movement and 200 feet or outside the fouling point for a trailing point movement for the switch to throw.

Caution: Most Power Assisted Switches that cannot be thrown remotely from a radio or panel, are **not** equipped with track occupancy circuitry protection. **Do not operate or attempt to operate these switches while occupied.**

12. RULE BOOKS IN EFFECT ON MONTANA RAIL LINK:

General Code of Operating Rules, 8th Edition, effective April 1, 2020. (GCOR)
Montana Rail Link General Safety Rules, Train, Yard & Engine, effective April 1, 2020. (GSR-TYE)
Montana Rail Link General Safety Rules, Mechanical, Engineering & Administration, effective April 1, 2020. (GSR-MEA)
Montana Rail Link General Responsibilities for Employees Not Covered by the General Code of Operating Rules, effective April 1, 2020. (GR)
Montana Rail Link Air Brake and Train Handling Rules, effective April 1, 2020. (ABTH)
Montana Rail Link Remote Controlled Locomotive System, effective April 1, 2020. (RCLS)
Montana Rail Link Mechanical Department Operating Rules, effective April 1, 2020. (MDOR)
Montana Rail Link On-Track Safety, effective April 1, 2020. (OTS)
Montana Rail Link Train Dispatchers Manual, effective March 15, 2021. (TDM)
United States Hazardous Material Instructions for Rail, effective April 1, 2020. (USHMI)
Emergency Response Guidebook, 2016 and 2020 editions. (ERG)
Signal Aspects and Indications, System Special Instructions Supplement, effective July 11, 2019.

A. GENERAL CODE OF OPERATING RULES *CHANGES AND ADDITIONS:*

If a conflict exists between the General Code of Operating Rules and the Rail Link General Safety Rules, the General Code of Operating Rules will govern.
The following rules modifications apply only on Montana Rail Link:

1.11 Sleeping *That part reading:*

Employees reclined with their eyes closed will be in violation of this rule.

Is changed to read:

Employees sleeping or assuming the position of sleeping will be in violation of this rule.

1.13 Reporting and Complying with Instructions - *The third paragraph is changed to read:*

All train, yard and engine crews must contact the train dispatcher when reporting for duty in regard to:

Train consist.
Rested or short rested.
Helper requirements if applicable.
Isolated / Shut Down locomotives for fuel conservation.
Any train restrictions.
Any additional bulletins/restrictions that may affect train movement.

The fourth paragraph and exceptions are changed to read:

All train crews must complete and keep a Signal Awareness Report for the duration of their tour of duty. All entries must be accurate, complete and legible including:

Train identification
Crew identification
Date (day/mo/yr)
Employee(s) who operated locomotive between specific points
Signal indication, time, speed and activity description
For detectors: axle count and temperature

Exceptions:

Yard crews whose duty is solely within a yard are not required to fill out a Signal Awareness Report.
When a deadhead is not in conjunction with a tour of duty, a Signal Awareness Report is not required.

1.47 Duties of Crew Members

- *Add after paragraph 2:*

Except when departing or arriving Missoula or Helena terminals, and excluding 1st sub East Billings to Laurel & 2nd Sub Laurel to Brodsky, and/or switching; a crew member must transmit the engine initials and number, direction, location, and signal name (include track number in multiple main track territory) when the head end of the train:

A. Passes a signal other than clear.
OR
B. Stops for a signal that requires stopping.

4.1 New Timetable

That part reading: **12.3.1 Notice of New Timetable**

Is changed to read: **4.1.1 Notice of New Timetable**

7.1 Switching Safety and Efficiently - *Add after the first paragraph:*
Prior to switching equipment, crews must ensure that a sufficient number of hand brakes are applied to prevent movement in the tracks to be used.
Prior to leaving equipment unattended during switching operations or after switching operations are complete crews must ascertain that each track that was switched into is properly secured by:
A. Applying a sufficient number of handbrakes and test the effectiveness of the handbrakes on each individual block of cars or equipment left in the track(s),
or
B. Coupling the track(s) that were used then applying a sufficient number of handbrakes and test the effectiveness of the handbrakes on one end of the track(s).
Note: A minimum of two (2) low end handbrakes must be applied. Additional handbrakes required must be applied to the low end when practical. However, it is permissible to have handbrakes throughout a cut of cars provided the effectiveness test is successful.

7.4 Precautions for Coupling of Moving Cars or Engines - *Add this second line:*

Before making a coupling in a curve or turnout, stop the movement 50 feet from the coupling to ensure the couplers are aligned.

7.5 Testing Hand Brakes - *Is changed in its entirety to read:*

7.5 Testing Hand Brakes
Employees must know how to operate the type of brakes they are using. When hand brakes must control or prevent car movement, test the effectiveness of the brakes to ensure that they are operating properly before using them.

7.5.1 Testing Effectiveness to Prevent Movement
When testing the effectiveness of hand brakes, ensure all air brakes are released and:
a. Allow the slack to adjust. It must be apparent when slack runs in or out, that the hand brakes are sufficient to prevent the equipment from moving.
or
b. Apply sufficient tractive effort to determine that the hand brakes prevent the equipment from moving when tractive effort is terminated.
If the effectiveness of hand brakes is not sufficient to prevent the equipment from moving, apply one or more additional hand brakes and re-test.
While spotting an industry and testing the effectiveness is not practical, use the following chart to determine the number of handbrakes required:

Guideline Chart When Unable to Verify Required Hand Brakes by Release of Air Brakes													
	Grade (%)												
Tons	<0.25	0.25-0.49	0.50-0.74	0.75-0.99	1.00-1.24	1.25-1.49	1.50-1.74	1.75-1.99	2.00-2.24	2.25-2.49	2.50-2.74	2.75-2.99	
<1,000	2	2	2	2	3	3	4	4	5	5	6	6	7
1,000-1,999	2	3	4	5	6	7	8	9	10	11	12	13	14
2,000-2,999	2	4	5	7	8	10	11	13	14	16	17	19	20
3,000-3,999	3	5	7	9	11	13	15	17	19	21	23	25	27
4,000-4,999	3	6	8	11	13	16	18	21	23	26	28	31	33
5,000-5,999	4	7	10	13	16	19	22	25	28	31	34	37	40
6,000-6,999	4	8	11	15	18	22	25	29	32	36	39	43	46
7,000-7,999	5	9	13	17	21	25	29	33	37	41	45	49	53
8,000-8,999	5	10	14	19	23	28	32	37	41	46	50	55	59
9,000-9,999	6	11	16	21	26	31	36	41	46	51	56	61	66
10,000-10,999	6	12	17	23	28	34	39	45	50	56	61	67	72
11,000-11,999	7	13	19	25	31	37	43	49	55	61	67	73	79
12,000-12,999	7	14	20	27	33	40	46	53	59	66	72	79	85
13,000-13,999	8	15	22	29	36	43	50	57	64	71	78	85	92
14,000-14,999	8	16	23	31	38	46	53	61	68	76	83	91	98
15,000-15,999	9	17	25	33	41	49	57	65	73	81	89	97	105
16,000-16,999	9	18	26	35	43	52	60	69	77	86	94	103	111
17,000-17,999	10	19	28	37	46	55	64	73	82	91	100	109	118
18,000-18,999	10	20	29	39	48	58	67	77	86	96	105	115	124
19,000-19,999	11	21	31	41	51	61	71	81	91	101	111	121	131
20,000-20,999	11	22	32	43	53	64	74	85	95	106	116	127	137
21,000-21,999	12	23	34	45	56	67	78	89	100	111	122	133	144
22,000-22,999	12	24	35	47	58	70	81	93	104	116	127	139	150
23,000-23,999	13	25	37	49	61	73	85	97	109	121	133	145	All
24,000-25,000	13	26	38	51	63	76	88	101	113	126	138	All	All

7.6 Securing Cars or Engines - *The first paragraph is changed to read:*

Do not depend on air brakes to hold a train, engine or cars in place when left unattended. Crew members and/or employees working jointly are responsible, through job briefing, to ensure equipment left unattended is properly secured and a sufficient number of hand brakes are applied to prevent movement. If handbrakes are not adequate, block the wheels.

Add:

Minimum of two (2) hand brakes on any standing cut of cars and handbrakes must be tested for effectiveness.

EXPLANATION:
unintentional movement and therefore, a sufficient number of hand brakes must be applied.

7.7 Kicking or Dropping Cars - *Is changed in its entirety to read:*

Kicking cars is permitted only when it will not endanger employees, equipment, or contents of cars. While kicking cars do not pin off a car in a curve or turnout.

Dropping cars is prohibited.

Kicking cars with air bottled is prohibited.

No more than 10 cars may be cut off in motion.

7.7.1 Gravity Switch Moves - *Is changed in its entirety to read:*

Gravity switch moves are prohibited.

9.17 Entering Signaled Track at Hand-Operated or Spring Switch

A. When Hand Operation of a Spring Switch or 5-Minute Wait is Not Required -

Bullet points 10, 11 and 12 are changed to read:

10. Track permit authorizes movement.

    or

11.

Add these to the **Glossary:**

ABS
See Automatic Block Signal System.

Absolute Block
A length of track that no train is permitted to enter while the track is occupied by another train.

Absolute Signal
A block or interlocking signal without a number plate, or designated by an A marker.

ACS
See Automatic Cab Signal System.

Articulated
Permanently connected multiple unit cars that share a common truck.

ATC Actuator
An ATC brake applying apparatus.

ATS
See Automatic Train Stop System.

Automatic Block Signal System (ABS)
A series of consecutive blocks governed by block signals, cab signals, or both. The signals are activated by a train or by certain conditions that affect the block use.

Automatic Cab Signal System (ACS)
A system that allows cab signals and the cab warning whistle to operate automatically.

B. GENERAL SAFETY RULES FOR TRAIN, YARD, AND ENGINE EMPLOYEES
CHANGES AND ADDITIONS:

G-2 CARS AND LOCOMOTIVES - *Bullet point 2 is changed to read:*

2. Do not ride on the end of the leading car, unless equipped with a riding platform and safety handrails.

G-8 WORK ENVIRONMENT - *Add bullet point 2:*

2. Smoking is not permitted while servicing industries that handle any type of flammable material.

T-3 CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE) - *Add bullet point 8:*

8. Transportation employees will be required to wear an orange hat, provided by Montana Rail Link, for the first year of service. These hats will be issued by a Training, Rules, and Safety (TRS) manager during new hire training. Employees needing a replacement hat can get one from the TRS department or Trainmaster at their respective location.

T-8 GETTING ON OR OFF AND RIDING ENGINES AND CARS

The third bullet point in item 6. d. *is changed to read:*

On the leading end of a car or cars.

Add the following bullet point in item 6.d:

If track condition cannot clearly be observed because of debris (e.g. snow, ice, water, grain, mud, etc.) do not ride or knowingly allow others to ride on either side of equipment or engine exterior.
While sitting on walkways, steps, or platforms of locomotives.

Add bullet point 11:

11. When snow and ice are observed building up on portion of tracks to be used, particularly at road crossings, locomotive(s) must precede movement on that portion of track before cars can be ridden into those tracks.

T-10 COUPLING EQUIPMENT - *Add bullet point 2:*

2. Before making a coupling in a curve or turnout, stop the movement 50 feet from the coupling to ensure the couplers are aligned.

T-13 KICKING CARS AND/OR UNCOUPLING EQUIPMENT - *Add:*

When kicking cars or uncoupling from equipment, avoid uncoupling equipment on curves or turnouts wherever possible, to keep couplers properly aligned.

C. GENERAL SAFETY RULES FOR MECHANICAL, ENGINEERING AND ADMINISTRATION EMPLOYEES *CHANGES AND ADDITIONS:*

G-8 WORK ENVIRONMENT - *Add bullet point 2:*

2. Smoking is not permitted while servicing industries that handle any type of flammable material.

E/M-11 MECHANIZED EQUIPMENT - *Bullet point 7 is changed to read:*

7. Secure unattended mechanized equipment against undesired movement. When not in use, booms and workheads must be stowed or secured unless moved to provide immediate access required for a work task.

E/M-19 FIRE PROTECTION AND PREVENTION - *Is changed in its entirety to read:*

1. If fire is discovered, turn in fire alarm immediately. Then control or extinguish the fire with a fire extinguisher rated for the fire involved if you can do so without jeopardizing your safety.
2. Maintain clear access to all fire-fighting equipment. Between April 1 and October 31, except when there is snow and/or ice in the vicinity, if there is no precipitation in the air (rain, snow, etc), Engineering department employees must set up spark shields and have firefighting equipment at the ready before any activities that create sparks can begin. Exception: for large scale grinding operations where it is not feasible to set up spark shields, other precautions can be made.
3. Maintain contact between metal containers while gasoline or other highly flammable liquids are being poured from one container to another. Use a wire with suitable connectors or clips where direct contact cannot be maintained.
4. Do not use flammable or combustible liquids to start or accelerate fires.
5. Be familiar with location and operation of firefighting equipment.
6. When possible, avoid letting vehicles idle while parked in tall dry grass or brush.
7. Employees must comply with all fire restrictions.

E/M-21 CRANES AND HOISTING EQUIPMENT - *Bullet point 4 is changed to read:*

4. Secure unattended equipment. When not in use, booms and cranes must be stowed or secured unless moved to provide immediate access required for a work task.

Add bullet point 14:

14. Before using a boom or outriggers on a motor vehicle equipped with a crane, steering wheel cover must be applied and left in place until boom and outriggers have been stowed and walk around has been performed.

M-5 BLUE SIGNAL PROTECTION OF WORKMEN - *Add to the definitions:*

Main track. A track extending through yards or between stations that must not be fouled without authority or protection.

Centralized Traffic Control (CTC). A block system that uses block signal indications to authorize train movements.

Controlled Siding. A siding within CTC or interlocking limits wher
Dispatcher authorizes track occupancy.

AUTHORITY TO FOUL A MAIN TRACK OR CONTROLLED SIDING DOES NOT RELIEVE THE EMPLOYEE FROM COMPLYING WITH GSR M-5/MDOR 5.13 (BLUE SIGNAL PROTECTION OF WORKMEN). BLUE SIGNAL PROTECTION IS REQUIRED ON THE TRACK WHERE WORK IS PERFORMED.

Yard. A system of tracks, other than main tracks and controlled sidings, used for making up trains, storing cars and other purposes.

Yard Limits. A portion of main track designated by yard limit signs, timetable special instructions or a track bulletin. Mechanical Department employees will perform work fouling a main track within Yard Limits according to local Mechanical Department instructions. Blue Signal Protection is required.

Crossover. A combination of two switches that connect two adjacent tracks. Both switches must be in corresponding position before moving over or through a crossover switch and must remain in corresponding position until movement is complete. Crossover switches may be out of corresponding position when:

Providing blue signal or inaccessible track protection in Rule 6.14 (Restricted Limits), Rule 6.28 (Movement on Other than Main Track) or non-signaled Rule 6.13 (Yard Limits) territory.

Crossover switches must be left lined in corresponding position. Crossover switches connected to a main track or siding must be left lined in normal position.

The normal position of crossover switches is for other than crossover movement. The switches must be left lined in normal position, except when they are in use for crossover movement.

B. How to Provide Protection

That part reading:

On a Main Track. A blue signal must be displayed at each end of the rolling equipment.

Is changed to read:

On a Main Track/Controlled Siding. A blue signal must be displayed at each end of the rolling equipment. This must be done with Main Track Authority or Train Coordination.

Outside Yard Limits mechanical forces will rely on Engineering Department employee(s) to provide protection on Main Track and Controlled Sidings. Track chart and Timetable will be utilized to determine Main Track and Controlled Sidings. Reference MDOR 6.0 Fouling Main Tracks and Controlled Sidings for additional guidance. NEVER UTILIZE DERAILS ON A MAIN TRACK/CONTROLLED SIDING.

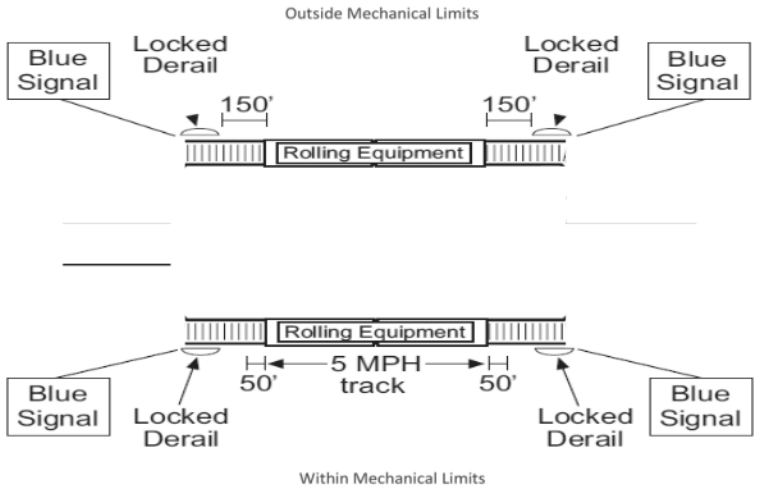
When working on any track near an adjacent main track or controlled siding be governed as follows:
Include the location of the adjacent main track or controlled siding in the job briefing.
Obtain proper authority if necessary to foul the adjacent main track or controlled siding.
Do not work between the tracks while a train or other movement is passing.

That part reading:

On Other than a Main Track. - *Is changed to read:*

On Other than a Main Track/Controlled Siding.

The diagram in item 2. is changed to the following:



E. Protection for Emergency Repair Work on a Main Track - *Add:*

(SEE MDOR 6.3.1 Train Coordination)

D. GENERAL RESPONSIBILITIES *CHANGES AND ADDITIONS:*

NONE

E. AIR BRAKE AND TRAIN HANDLING RULES *CHANGES AND ADDITIONS*:

100.2 Safety Inspection of Freight Cars - *Add after first paragraph:*

Exception: Safety inspection of freight cars is not required when combining two extended haul trains.

100.10 Initial Terminal and Road Air Brake Test (Class1 Air Brake Test)
A. Requirement For Test
On a portion of the train as specified below: - *The second bullet point is changed to read:*

On that portion of train that has not been kept charged. (off air for over 24 hours)

100.10 Initial Terminal and Road Air Brake Test (Class1 Air Brake Test)
C. Engineer Notification - *Add the below bullet point after the NOTE in 2. c.*

Trains operating under FRA-2020-0033 combo-waiver may utilize the electronic record of Class 1 Air Brake Tests on the Train Profile. Original written record, if equipped, will be maintained on each lead locomotive of previous train.

- *The first bullet point is changed to read:*

Train may not make more than one pick up or one set out between Initial Terminal (Class 1) and/or Intermediate (Class 1A) inspection points. This excludes any set out of defective equipment discovered enroute. The combining/splitting of two extended haul trains does not count as a pick-up or setout.

100.10.2 Test Required after Attaching Locomotive to Train Previously Tested with Yard Test Plant - *Is changed in its entirety to read:*

When the locomotive is coupled to a train that the initial terminal air brake test has been performed with yard test plant:

If train has been off air 24 hours or less and yard air pressure setting is the same as locomotive regulating valve, perform air test as outlined in Rule 100.15 (Application and Release Air Brake Test).

If train has been off air 24 hours or less and yard air pressure setting is less than locomotive regulating valve:

1. Charge air to regulating valve setting.
2. Perform a leakage test as specified in Rule 100.9 (Brake Pipe Leakage Test).
3. Perform a Rule 100.15 (Application and Release Air Brake Test).

If train has been off air more than 24 hours, perform a Rule 100.10 (Initial Terminal and Road Air Brake Test) on the entire train.

100.14 Air Brake Test When Cutting Off and Recoupling - *Is changed in its entirety to read:*

When a train is uncoupled, unchanged, and then recoupled in 24 hours or less, determine that brake pipe pressure is being restored as indicated by gauge or device at the rear end of the train before proceeding.
If the cars are recoupled in more than 24 hours, conduct a Rule 100.10 Class 1 Air Brake Test on those cars that did not remain charged.

100.15 Application and Release Test (Class 3 Air Brake Test)
Requirement for Test - *The third bullet point is changed to read:*

After picking up a block of previously tested cars that have not been off air for more than 24 hours.

Add:

102.0.1 General Requirements

Crew members and/or employees working jointly are responsible to inquire and confirm with each other that equipment is left in accordance with the following rules: (102.1, 102.1.1, 102.1.2, 102.1.3 and 102.3).

102.1.3 Securing a Single Car before Detaching Cars/Locomotives

Bullet point 3 Is changed to read:

3. Move the car a sufficient distance to ensure hand brake is effective.

102.3 Unattended Locomotive(s)
Additional securement guidelines for unattended locomotives not coupled to other equipment:

Add to bullet point 2:

a. On any locomotives not set up for lead, have inoperative air brakes or are dead, test the handbrake by moving the locomotive a sufficient distance to ensure hand brake is effective.

Add:

102.3.1 Locking Locomotives
Before leaving locomotives unattended, lock cab doors of the lead controlling locomotive when the exterior front door is equipped with a D575-style locking mechanism as follows:
1. Lock the back door from inside the cab.
2. Exit the cab through the front door.
3. Lock the exterior front door from the outside.

Exceptions: Lead controlling locomotive cab doors may be left unlocked:
- In a yard where an employee such as a yardmaster or terminal trainmaster is on duty continuously.
- On a track where employees regularly inspect, test, repair, or service rolling equipment (engine servicing area, Main Track fueling location, etc.).

After conditioning a DP remote consist, lock all locomotives in the remote consist equipped with a D575-style locking mechanism as outlined above.

102.12.6 Pulse Helperlink
3. Conditioning and Testing Helpers Equipped with Helperlink Before Attaching - *Is changed in its entirety to read:*

Before attaching helpers equipped with helperlink to the train to be helped, observe the following steps:
A. Testing uncoupled lever function
1. After installing helperlink, test the function of uncoupling lever by using the DTMF touch tone pad on the locomotive radio. Activation codes to be used are indicated on the helperlink radio module, which is attached to the rear of the top or upper control box.
2. radio while uncoupling lever is being lifted.
    a. It may be necessary to enter the activation code more than once to activate the pin lifting mechanism.
3. Determine that lift mechanism functions properly and does not bind or foul.

NOTE: No response by helperlink may indicate improper road channel coded into radio control module. Check display in radio module for proper operating radio channel.

4. Attaching Helpers Equipped with Helperlink - *Is changed in its entirety to read:*

Observe the following steps when attaching to the helped train.

1. Couple to train being helped and stretch coupling.
2. Make a 20-psi brake pipe reduction.
3. Cut out the automatic brake valve and place the handle in the RELEASE position.
4. Establish communications with the ETD of the train being helped as follows:
    a. Dial in the ID code of the ETD on the train being assisted.
    b. Check the communication between the helperlink device and the end-of-train device by pressing the COMM TEST/ARM button on helperlink, alarm bell will ring.

        NOTE: Matching brake pipe reduction of train being helped is not required when using helperlink. However, brake pipe pressure on helper locomotive must not be lower th
        an emergency application will occur when helperlink is enabled.
    c.
        Helperlink should now maintain the same brake pipe pressure on the helper locomotive(s) as the helped train.

NOTE: When required, test ETD emergency feature on the train being helped before establishing communication between helperlink and the ETD on the train being helped.

103.4 Throttle Handling - *Bullet point 4 Is changed to read:*

4. Do not apply power to hold a train stationary on a grade unless:
    All locomotive units in the consist are AC locomotives
    Or
    When DC locomotive(s) in consist are isolated, remaining AC locomotives may be used to hold train

103.7.2 Recharging on a Grade - *Is changed in its entirety to read:*

When stopped on a grade and it becomes necessary to recharge the air brake system before moving and the independent brakes may not hold the train:

1. Apply a sufficient number of hand brakes or retainers.
2. Release the automatic brake.
3. Recharge the air brake system.
4. After recharging the system, make a sufficient brake pipe reduction to hold the train while releasing the hand brakes or retainers.

Do not apply power to hold a train stationary on a grade unless:
All locomotive units in the consist are AC locomotives
Or
When DC locomotive(s) in consist are isolated, remaining AC locomotives may be used to hold train
Note: If recoupling on a grade, refer to ABTH 102.10

104.14 Determining Number of Hand Brakes - *That part reading:*

Minimum of two hand brakes on any standing cut of cars in a yard track. - *Is deleted.*

105.5 Train Check - *The* **EXCEPTION** *is changed to read:*

EXCEPTION: Initiating Train Check feature is not required when leaving a train unattended at a terminal or yard. The

105.5.3 Securing Train Using Train Check - *The* **EXCEPTION** *is changed to read:*

EXCEPTION: Initiating Train Check feature is not required when leaving a train unattended at a terminal or yard. The

GLOSSARY

Off Air - *Is changed in its entirety to read:*

Off air is a term used to describe a brake system that has not been connected to a continuous source of compressed air of at
r is one or more locomotives or a yard air
connection to the brake system. If brake pipe gradient is observed, no minimum brake pipe pressure at the opposite end of a brake system is required as long as 60 psi or more is being maintained at the charging end of the brake system.

Solid Block (of cars) - *Is changed in its entirety to read:*

One or more cars coupled together that:

- Are charged or have not been off air for more than 24 hours.
  and
- Have been tested as outlined in Rule 100.10 (Procedure for Inspection and Test).

Freight Train Air Brake Tests Chart - *Is changed in its entirety to read:*

FREIGHT TRAIN AIR BRAKE TESTS

This chart contains the main points of air brake tests.
It does not supersede the requirements of MRL Air Brake and Train Handling Rules.

Montana Rail Link

Type of Test and Rule Number	Charge System to Within 15 psi of Regulating or Feed Valve	Charge System to Not Less Than 60 psi	15 psi Brake Pipe Reduction	20 psi Brake Pipe Reduction	Brakes Applied			Brake Pipe Leakage Test	Brakes Released			Brake Pipe Pressure Being Restored
					Car(s) Picked Up	Rear Car	Entire Train		Car(s) Picked Up	Rear Car	Entire Train	
Initial Terminal (Class 1) 100.10												
Add Car(s) Not Pretested (Class 2) 100.10						#				#		
Transfer Train Movement 100.11												
(1000 Mile) (Class 1A) 100.12												
Cut-Off & Recouple Same Consist & Train Less than 24 Hours 100.14												#
Solid Block of Cars Pretested Off Air Less Than 24 Hours 100.16						#						#
Application & Release (Class 3) 100.15						#						#

REAR OF TRAIN DEVICE MUST BE USED TO NOTE REDUCTION AND INCREASE OF BRAKE PIPE PRESSURE OF A MINIMUM OF 5 PSI.

F. REMOTE CONTROL LOCOMOTIVE SYSTEMS *CHANGES AND ADDITIONS:*

NONE

G. MECHANICAL DEPARTMENT OPERATING RULES *CHANGES AND ADDITIONS:*

5.13 Blue Signal Protection of Workmen - *Add to the definitions:*

CENTRALIZED TRAFFIC CONTROL (CTC)
A block system that uses block signal indications to authorize train movements.

CONTROLLED SIDING

cher authorizes

track occupancy.

Authority to foul a main track or controlled siding does not relieve the employee from complying with GSR M-5/MDOR 5.13 (blue signal protection of workmen). Blue signal protection is required on the track where work is performed.

CROSSOVER
A combination of two switches that connect two adjacent tracks. Both switches must be in corresponding position before moving over or through a crossover switch and must remain in corresponding position until movement is complete. Crossover switches may be out of corresponding position when:
Providing blue signal or inaccessible track protection in Rule 6.14 (Restricted Limits), Rule 6.28 (Movement on Other than Main Track) or non-signaled Rule 6.13 (Yard Limits) territory.
Crossover switches must be left lined in corresponding position. Crossover switches connected to a main track or siding must be left lined in normal position.
The normal position of crossover switches is for other than crossover movement. The switches must be left lined in normal position, except when they are in use for crossover movement.

MAIN TRACK
A track extending through yards or between stations that must not be fouled without authority or protection.

YARD
A system of tracks, other than main tracks and controlled sidings, used for making up trains, storing cars and other purposes.

YARD LIMITS
A portion of main track designated by yard limit signs, timetable special instructions or a track bulletin. Mechanical Department employees will perform work fouling a main track within Yard Limits according to local Mechanical Department instructions. Blue Signal Protection is required.

B. How to Provide Protection - *That part reading:*

ON A MAIN TRACK
A blue signal must be displayed at each end of the rolling equipment.

Is changed to read:

ON A MAIN TRACK/CONTROLLED SIDING
A blue signal must be displayed at each end of the rolling equipment. This must be done with Main Track Authority or Train Coordination.
Outside Yard Limits mechanical forces will rely on Engineering Department employee(s) to provide protection on Main Track and Controlled Sidings. Track chart and Timetable will be utilized to determine Main Track and Controlled Sidings. Reference MDOR 6.0 Fouling Main Tracks and Controlled Sidings for additional guidance. NEVER UTILIZE DERAILS ON A MAIN TRACK/CONTROLLED SIDING.
When working on any track near an adjacent main track or controlled siding be governed as follows:

- Include the location of the adjacent main track or controlled siding in the job briefing.
- Obtain proper authority if necessary to foul the adjacent main track or controlled siding.
- Do not work between the tracks while a train or other movement is passing.

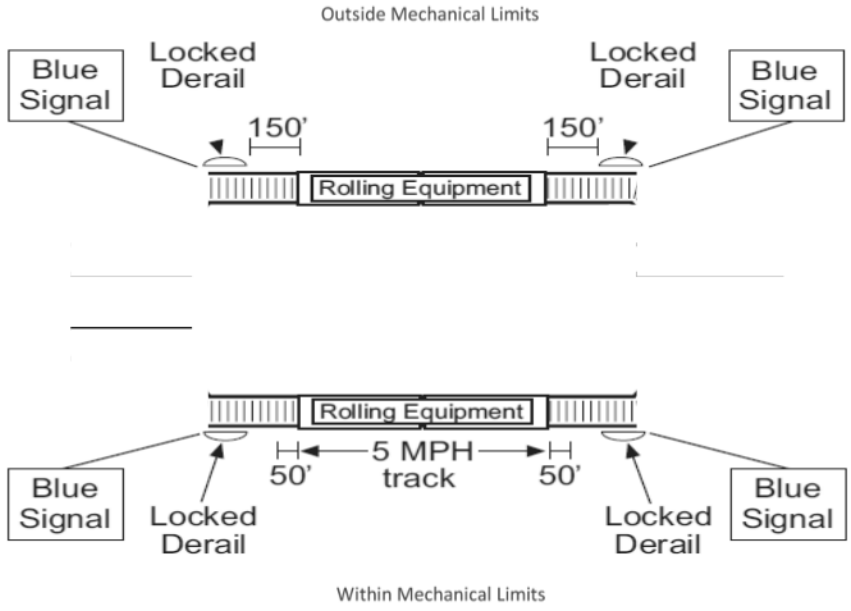
That part reading:

ON OTHER THAN A MAIN TRACK

Is changed to read:

ON OTHER THAN A MAIN TRACK/CONTROLLED SIDING

The diagram in item 2. is changed to the following:



E. Protection for Emergency Repair Work on a Main Track - *Add:*

(SEE MDOR 6.3.1 Train Coordination)

7.5 Testing Hand Brakes - *Is changed in its entirety to read:*

7.5 Testing Hand Brakes

Employees must know how to operate the type of brakes they are using. When hand brakes must control or prevent car movement, test the effectiveness of the brakes to ensure that they are operating properly before using them.

7.5.1 Testing Effectiveness to Prevent Movement

When testing the effectiveness of hand brakes, ensure all air brakes are released and:

a. Allow the slack to adjust. It must be apparent when slack runs in or out, that the hand brakes are sufficient to prevent the equipment from moving.
   or
b. Apply sufficient tractive effort to determine that the hand brakes prevent the equipment from moving when tractive effort is terminated.

If the effectiveness of hand brakes is not sufficient to prevent the equipment from moving, apply one or more additional hand brakes and re-test.

7.6 Securing Cars or Engines - *The first paragraph is changed to read:*

Do not depend on air brakes to hold a train, engine or cars in place when left unattended. Crew members and/or employees working jointly are responsible, through job briefing, to ensure equipment left unattended is properly secured and a sufficient number of hand brakes are applied to prevent movement. If handbrakes are not adequate, block the wheels.

Add:

Minimum of two (2) hand brakes on any standing cut of cars and handbrakes must be tested for effectiveness.

SECTION II AIR BRAKE AND TRAIN HANDLING RULES - *Add:*

102.0.1 General Requirements

Crew members and/or employees working jointly are responsible to inquire and confirm with each other that equipment is left in accordance with the following rules: (102.1, 102.1.1, 102.1.2 and 102.3).

102.3 Unattended Locomotive(s)

Additional securement guidelines for unattended locomotives not coupled to other equipment:

Add to bullet point 2:

a. On any locomotives not set up for lead, have inoperative air brakes or are dead, test the handbrake by moving the locomotive a sufficient distance to ensure hand brake is effective.

Freight Train Air Brake Tests Chart - *Is changed in its entirety to read:*

FREIGHT TRAIN AIR BRAKE TESTS

This chart contains the main points of air brake tests.
It does not supersede the requirements of MRL Air Brake and Train Handling Rules.

Montana Rail Link

Type of Test and Rule Number	Charge System to Within 15 psi of Regulating or Feed Valve	Charge System to Not Less Than 60 psi	15 psi Brake Pipe Reduction	20 psi Brake Pipe Reduction	Brakes Applied			Brake Pipe Leakage Test	Brakes Released			Brake Pipe Pressure Being Restored
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Transfer Train Movement 100.11												
(1000 Mile) (Class 1A) 100.12												
Cut-Off & Recouple Same Consist & Train Less than 24 Hours 100.14												#
Solid Block of Cars Pretested Off Air Less Than 24 Hours 100.16						#						#
Application & Release (Class 3) 100.15						#						#

REAR OF TRAIN DEVICE MUST BE USED TO NOTE REDUCTION AND INCREASE OF BRAKE PIPE PRESSURE OF A MINIMUM OF 5 PSI.

SECTION III GLOSSARY
MECHANICAL DEPARTMENT
ABTH DEFINITIONS

Off Air - *Is changed in its entirety to read:*

Off air is a term used to describe a brake system that has not been connected to a continuous source of compressed air of at

connection to the brake system. If brake pipe gradient is observed, no minimum brake pipe pressure at the opposite end of a brake system is required as long as 60 psi or more is being maintained at the charging end of the brake system.

H. ON-TRACK SAFETY RULES AND PROCEDURES *CHANGES AND ADDITIONS:*

OTS 1.50 A. CLEARING TRACKS FOR APPROACHING MOVEMENTS - *Add to item 3:*

NOTE: On crews of two or more people, at least two employees must perform a walk-around inspection to ensure all equipment is clear of tracks being cleared for movement.

OTS 1.52.8 UNATTENDED ON-TRACK EQUIPMENT - *Add:*

NOTE: Before securing undercutter prior to tie-up, machine must be turned, if necessary, to ensure the wheel and conveyor are on the field side of any adjacent main line or other controlled track.

When possible, rubber-tired on-track equipment must be set off and left clear of tracks, unless attached to rail-bound equipment.

I. TRAIN DISPATCHERS MANUAL *CHANGES AND ADDITIONS:*

40.4.8 Crossing Warning / Power Off Indicators

Malfunctioning Crossing Warning Device - *That part reading:*

Notify all affected trains as follows: **"Malfunctioning automatic crossing warning device(s) at MP ___, ____, ____, ____, ____, ____, ____, ____."**

Is changed to read:

Notify all affected trains as follows: **"Automatic crossing warning device(s) false or partial activation at MP ___, ____, ____, ____, ____, ____, ____, ____."**

Crossing Warning Activation Failure / Disabled - *That part reading:*

6. Notify all affected trains as follows:

Is changed to read:

6. Notify all affected trains as follows:

Damaged or Missing Crossbucks - *That part reading:*

Notify all affected trains with X Box 12 as follows:

Is changed to read:

Notify all affected trains as follows:

40.4.9 Releasing trains over crossings after maintenance has been performed - *Is changed in its entirety to read:*

Releasing trains over crossings where track work has been performed in the crossing approach circuit.

If work is being done in a crossing approach circuit and you are notified by the maintainer that the crossing is out of service, Disabled or has an activation failure issue a mandatory directive as follows:

Notify all trains affected as follows:

This notification must be done in writing.

A crossing malfunction is defined as any report that a crossing is not functioning properly, and a maintainer has not yet responded to determine what the problem is. After the maintainer arrives and has assessed the issue, they will determine whether it is a malfunction, activation failure, disabled or out of service.

40.21.1 Operations Testing Involving Road Crossing

The third bullet point is changed to read:

Promptly notify all affected trains as instructed:
MP ___, ____, ____, ____, ____, ____, ____."

The sixth bullet point is changed to read:

Promptly notify all affected trains as instructed: **failure/disabled at MP**

The last paragraph is changed to read:

Notifications must be done in writing. Restrictive Tag or track block must continue to protect the crossing until the field officer or Assistant Chief Dispatcher has reported testing is complete. Notate **OPS TEST** on any Mandatory Directive issued associated with the operational test.

41.7.3 Speed Restrictions

Is changed in its entirety to read:

ion

between MP ___ and MP ___ do no exceed ___ MPH on the _____ (tracks).

Add the following if necessary:

a.
b.

J. U.S. HAZARDOUS MATERIAL INSTRUCTIONS FOR RAIL *CHANGES AND ADDITIONS:*

NONE

13. REFERENCE TO TERMS:

Montana Rail Link may, in some publications, reference titles that have become standards in the railroad industry. Some of these titles may not exist on Montana Rail Link. Responsibilities traditionally associated with these positions are incorporated in positions with other titles.

14. EMPLOYEE / ATTORNEY COMMUNICATIONS:

Montana Rail Link employees are not obligated to speak to a claimant, his/her attorney, his/her representative or his/her

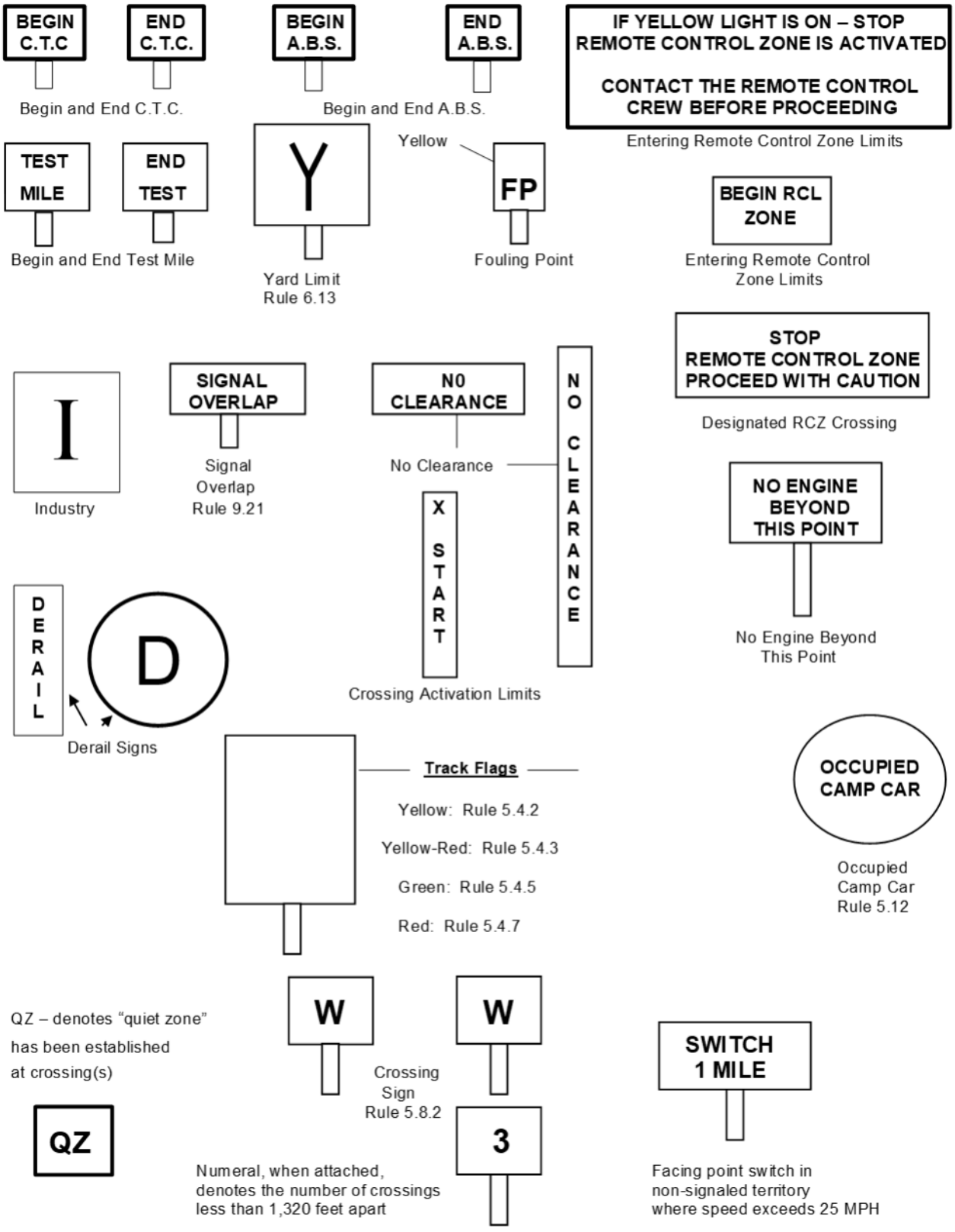
statements or acknowledge statements to them. Employees are entitled, if desired, to have a company attorney present during any interview or statement that the Employee has agreed to voluntarily.

Employees are precluded from providing any copies or originals of documents which are the property of Montana Rail Link

Questions concerning this policy should be directed to the supervisor.

15. ROADWAY SIGNS:

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



16. CRAFT SPECIFIC INSTRUCTIONS

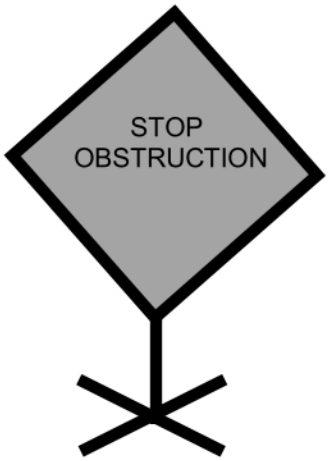
Craft specific information and instructions can be found on the MRL Extranet and/or posted notices and instructions. The MRL Extranet can be found at www.montanarail.com

17. POLICY AND PROCEDURE

For information on policies or procedures, contact you supervisor or the Human Resources Department.

18. OPERATIONS TESTING:

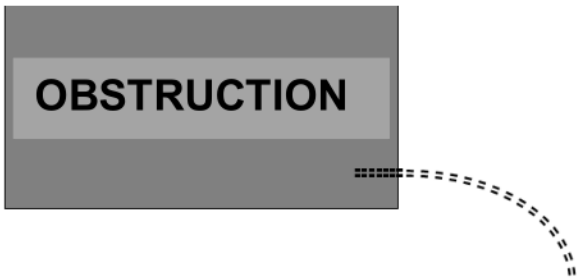
When operations testing is performed to test for rules compliance, a banner may be used to obstruct the track. It will display



Approximate 48 inch by 48 inch diamond shaped sign with orange background and black letters.

This banner is considered a stop signal and a simulation of on-track equipment. When required by rule, stop all train, engine or on- , red flag or other stop indication.

When operations testing for rules governing switches, a small sign may be used.
following format:



Approximate 3 inch by 2 inch rectangular shaped sign with orange background and black letters.

This sign indicates a test is being performed. Employees finding the sign should pick it up and return it to the testing officer. WARNING: Be aware of pinch points and do no use hands or feet to remove items in switch points. Use broom, stick or similar tool.

19. EARTHQUAKE RESPONSE AND INSPECTION GUIDELINES:

When an earthquake occ or inherent strength is measured and reported by the National Earthquake Service operated by the U.S. Geological Survey in Golden, Colorado.

Updates, magnitude, and location of epicenter information is to be obtained from any of the following locations 24 hours, 7 days per week:

MT State Disaster Emergency Services Division (406) 324-4777 then press 1
Direct Duty Officer (406) 431-0411
USGS Golden, CO. (303) 273-8500

When any earthquake activity or shaking is reported, the train dispatcher will do the following:

1. **STOP** all trains within 50 miles of any reported shaking.
2. Instruct all trains within 50- cknowledgment must be obtained from each train or engine receiving these instructions.
3. Once magnitude and epicenter are known, the following inspection criteria will apply: