

**Roadrailer Info**

**ROADRAILER 60 MPH Loaded and 55 MPH Empty**

**UNDER AIR BRAKE AND TRAIN HANDLING RULES - No. 2 -  
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**RULE 103. 9**

**ROADRAILER EQUIPMENT (ROADRAILER TRIPLE CROWN) AUTORAILER, and ALLRAILER)**

**DESCRIPTION**

Trailer/container units that can be assembled and interconnected with shared railroad trucks (also referred to as bogies) and operate over the railroad are known as "roadrailer" equipment. This equipment is identified by the truck/bogie and has car kind codes QZW or M2E. This equipment is assembled similarly to articulated freight equipment and blocks of this equipment should reflect an additional railroad truck/bogie that will be indicated as an empty on train documentation. Roadrailer truck/bogies equipped with conventional couplers and tool storage are referred to as "coupler mates." This equipment comes in three different types.

1. Roadrailer Triple Crown (car kind code QZW) - highway/railroad capable trailers that can move all types of conventional dry freight.
2. Roadrailer/Autorailer (car kind code QZW) - highway/railroad capable trailers that can move both conventional dry freight and automobiles.
3. Roadrailer/Allrailer (car kind code M2E) - lightweight container segments that are capable of operating only on the railroad and are capable of carrying automobiles only.

**Rule 103. 9. 1**

**SPECIAL HANDLING REQUIREMENTS and OPERATING PRACTICE GUIDELINES  
for ROADRAILER EQUIPMENT.**

1. Roadrailer equipment must be operated as a unit train consisting of all roadrailer equipment or at the rear of other freight equipment as instructed by dispatcher. Note: Notify the Train Dispatcher and the Mechanical Help Desk if an enroute equipment failure or other problem occurs that requires Roadrailer equipment to be: : set out, : bypassed with a runaround hose, and/or the spring parking brake is "caged", : secured on a grade (by use of the parking brake isolation valve) to recharge the brake system.
2. Roadrailer equipment shown as empty is limited to a maximum speed of 55 MPH. (Trains with a block of this equipment or unit trains made up entirely of this equipment may be operated at maximum authorized speed if only one railroad truck/bogie is shown as an empty.)

Exception: Amtrak roadrailer equipment may operate at maximum authorized passenger speed either loaded or empty.

3. Total number of roadrailer units that can be operated as a block on the rear of other freight equipment or as a unit train is 125 with total trailing tonnage beginning at the lead roadrailer unit not to exceed 1,800 tons.
4. Roadrailer equipment must be entrained "nose first" for main track operation.

Exception: Amtrak passenger trains may be handled "nose first" due to equipment differences and as per Amtrak guidelines.

5. Roadrailer equipment must not be humped.
6. When coupling a locomotive to roadrailer equipment, a safety stop must be made.
7. Roadrailer equipment coupling speed must not exceed 2 MPH.

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8. Shoving roadrailer equipment must be avoided whenever possible. If necessary to shove roadrailer equipment, movement must not exceed 10 MPH.
9. If necessary to couple to rear "coupler mate" to move this equipment other than "nose first" limit the locomotive consist's rated powered axles to eight (8) or less. Limit tonnage being moved in this manner by excluding other than roadrailer equipment.

### OTHER SPECIAL HANDLING REQUIREMENTS

1. Roadrailer equipment must not be left standing as a single unit within block system or interlocking limits without notifying train dispatcher who must provide protection.
2. Roadrailer equipment is not equipped with the following safety appliances: ladders, hand holds, platforms, sill steps, uncoupling levers or hand brakes. **DO NOT ATTEMPT TO MOUNT THIS EQUIPMENT.**
3. Roadrailers must be set out if highway wheels are on the rail and the condition cannot be corrected.
4. Any unit bypassed with a run-around hose must be set out as instructed by dispatcher.
5. Do not bypass a railroad truck/bogie unless absolutely necessary; if railroad truck/bogie must be bypassed, the following will apply:
  - (a) If equipment personnel are not available to cage or otherwise disable bogie spring brake, trailer must be set out.
  - (b) Caging bolt and instructions for its use are supplied in coupler mate.

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#### SECURING ROADRAILER EQUIPMENT

Roadrailer equipment is not equipped with hand brakes. In most cases, this equipment is light enough that the locomotive(s) being utilized in this service has sufficient locomotive braking force to hold the equipment at rest. However, this equipment is equipped with what is referred to as a "parking brake." The parking brake is a spring mechanism that secures each individual bogie automatically after brake pipe pressure has been absent for approximately four minutes.

#### RELEASING the PARKING BRAKE WITHOUT CHARGING the BRAKE SYSTEM

If there is a need to release the parking brake to move this equipment, other than by simply releasing and charging the air brake system, isolate or "cage" the parking brake by using the "caging" tool and instructions in the CouplerMate toolbox. This method would be used when an air brake control valve failure has occurred.

#### RECHARGING on GRADE

If operating on heavy grade, it may be necessary to recharge the air brake system before proceeding while using roadrailer "parking brakes" to help hold the train at rest. First, exhaust the brake pipe to zero psi with the automatic brake valve and wait a minimum of 4 minutes for the "parking brake" to apply automatically. Next, locate and close a sufficient number of "parking brake isolation valves" on the Roadrailer equipment as follows:

On 1% grade or greater, close all available parking brake isolation valves.

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On less than 1% grade, close half of the available parking brake isolation valves.

Release the train air brakes and recharge. After sufficient recharge has occurred, make a sufficient air brake application to hold the train and open the "parking brake isolation valves" to release the "parking brakes."

If train also consists of equipment other than Roadrailer equipment, first utilize hand brakes on the other equipment per Air Brake & Train Handling Rule 101.27.6 in addition to Roadrailer parking brake isolation valves, as required.

### LEAVING ROADRAILER EQUIPMENT UNATTENDED

If it is necessary to leave roadrailer equipment unattended, use the following procedure:

#### WITH LOCOMOTIVES ATTACHED

1. Exhaust brake pipe pressure to zero psi with the automatic brake valve by placing the handle in Continuous Service. (Note: it may be necessary to use an emergency application on CCB systems to completely drop brake pipe pressure to zero psi.)
2. Wait a minimum of 4 minutes with brake pipe pressure at zero psi for the "parking brake" to automatically apply.
3. Close the angle cock between the locomotive and the roadrailer equipment and detach the brake pipe hose from the locomotive.
4. Secure the locomotive consist as prescribed in ABTH Rule 102.13.

#### WITHOUT LOCOMOTIVES ATTACHED

1. Make a 20-psi brake pipe reduction.
2. Detach locomotives and allow emergency brake application to apply on roadrailer equipment.
3. Leave angle cock open on roadrailer equipment left standing.

Exception: Roadrailer must not be left unattended or left standing without being coupled to other equipment or locomotive(s) on a grade of 2 percent or greater unless equipment is protected by a derail.

### ENROUTE TROUBLESHOOTING PROCEDURES

NOTE: The following information is to assist employees handling RoadRailer® Mark V equipment. Specific BNSF instructions, covering the use of RoadRailer equipment, may be found, in the System Special Instructions, General Orders, and Track Bulletins.

#### ENROUTE EQUIPMENT FAILURES

RoadRailer® equipment should be handled as a complete unit. Notify the Train Dispatcher and the Mechanical Help Desk if an enroute equipment failure or other problem occurs that requires RoadRailer® equipment be:

- (a) set out.
- (b) bypassed with a runaround hose, and/or the spring parking braking is "caged."
- (c) secured on a grade (by use of the parking brake isolation valve) to recharge the brake system. In addition to complying with instructions issued by the train dispatcher, a manufacturer's operating manual and other instructions may be found in the toolbox compartment on the CouplerMate rail bogie.

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### SECURING TRAIN BEFORE MAKING A SEPARATION

If RoadRailer® trainline air hoses must be separated at an equipment location other than the “normal” end of the CouplerMate Bogie, the RoadRailer® equipment must be secured using the following procedure:

The engineer must vent brake pipe pressure to zero psi by placing the automatic brake valve handle to the CONTINUOUS SERVICE (CS) position. Note: The parking brakes will automatically apply when brake pipe pressure is at zero psi. After brake pipe pressure is at zero psi, the engineer must:

- (a) leave the automatic brake valve handle in the CONTINUOUS SERVICE (CS) position.
- (b) notify the person on the ground that the train is secure and the ground procedure may begin. Warning: Failure to vent the air pressure from the train line will cause the air hose to whip when the gladhands are separated, leading to possible serious injury.

### SEPARATING THE TRAIN

- (1). Obtain the coupler wrench from the CouplerMate rail bogie storage bracket.
- (2). Ensure that the RoadRailer® equipment is on tangent track. Then lower the landing gear on the trailer to be left standing. The landing gear shoes should firmly contact the rail. Then switch into low gear by pulling out on the crank handle and crank another two or three inches.
- (3). Close brake pipe cut-out cock at the left rear of the bogie to be set out. The brake pipe cut-out cock is located just inside the frame window.
- (4). Insert and engage the coupler wrench into the coupler guide tube at the left rear corner of the trailer to be set out.
- (5). Advise the engineer to place automatic brake valve handle to RELEASE position and to verify that end-of-train pressure remains at zero psi.
- (6). Pull out the coupler safety release handle and rotate the coupler wrench clockwise to lower the coupler pin.
- (7). Advise the engineer to pull ahead a sufficient distance to separate the train (5 or 6 feet), then to stop to complete the cut process.
- (8). Close the coupler pin. Leave the coupler wrench in the guide tube if it will be needed to make another cut in the set out area.

**WARNING:** Under no circumstances should crew members attempt to ride RoadRailer® equipment.

- (9). Proceed to set out track.
- (10). Repeat the process to set out the defective unit. Note: RoadRailer® equipment is not equipped with handbrakes. A spring parking brake automatically applies when brake pipe pressure is at zero psi and the brake cylinder has not been “caged.” Check that the spring parking brake is applied by inspecting the brake position indicator, on the brake cylinder push rod. It should be fully extended and the caging bolt removed from the back of the cylinder.

### RE-COUPLING THE TRAIN

- (1). Return to the portion of the train left at the original site.

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- (2). Stop movement about one trailer length from the portion of the train left standing.
- (3). Insert and engage the coupler wrench into the coupler guide tube at the left rear corner of the trailer that is re-coupling to the portion of the train left standing.
- (4). Pull the coupler safety release handle out and rotate the coupler wrench clockwise to lower the coupler pin.
- (5). Visually check that the coupler pin is completely down and the coupler mouth is clear.
- (6). Signal the engineer to slowly back the train towards the portion left standing.
- (7). Stop movement before coupler contact is made to check vertical alignment. Adjust landing gear, if necessary.
- (8). Signal the engineer to back train until couplers are mated. Coupling speed must not exceed 2 MPH.
- (9). Rotate coupler wrench counter-clockwise until pin is up and locked.
- (10). Test coupler pin by attempting to rotate the coupler wrench clockwise without pulling the safety pin release handle.
- (11). Remove the coupler wrench and connect brake pipe glad-hands.
- (12). Open brake pipe cut-out cock at the left rear of the bogie that re-coupled to the portion of the train left standing.
- (13). Confirm with the engineer that air pressure is being restored to the rear-of-train.
- (14). Re-track the landing gear on the trailer re-coupled to, then place the crank handle in its storage bracket.
- (15). Return the coupling wrench to the CouplerMate rail bogie storage bracket.

### ISOLATING THE BRAKES

If a control valve malfunctions or a branch pipe hose bursts on RoadRailer® equipment, it may be necessary to isolate the rail bogie control valve to be able to move the train to the next repair or set-out location.

- (1). Locate the malfunction and close the control valve branch pipe cut-out cock.
- (2). Bleed the reservoir and cylinder pressure on the affected control valve.
- (3). Obtain the spring brake caging tool and boxed end wrenches from the CouplerMate toolbox.
- (4). Fit the spring brake caging tool in the end of the brake cylinder and screw into the inner diaphragm. Ensure that the threaded stud is fully engaged in the piston.
- (5). Run the nut down until the large washer bears on the housing support.
- (6). Hold the hex head with one wrench to keep the tool from rotating, turn the other nut with another box end wrench to compress the coil spring. This will release the spring parking brake.
- (7). Check the brake position indicator to ensure the bogie's brakes are released.

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(8). Leave the caging bolt in place until the repair destination. Return the tools to the CouplerMate toolbox.

### PARKING BRAKE ISOLATION VALVE

The parking brake isolation valve is a device that prevents air from releasing the spring parking brake. This allows the engineer to safely recharge a brake system when the locomotive brakes will not hold the train. In order to hold the brakes in the applied position, close the parking brake isolation valve. It is located next to the brake cylinder body. Close as many as necessary to secure the train.

After the engineer has restored the train line air and made an adequate set to hold the train, reopen these valves to release the brakes.

### USING THE RUN-A-ROUND HOSE

In emergency situations when other portions of the rail bogie piping is damaged, a run-a-round hose can be used to by-pass the complete rail bogie. This run-around hose is about 20 feet in length with "F" type gladhands on both ends.

- (1). Locate the bogie with the malfunction.
- (2). The engineer must secure the train as outlined in the section SECURING TRAIN BEFORE MAKING A SEPARATION.
- (3). Obtain the run-a-round hose form the CouplerMate toolbox.
- (4). Verify with the engineer that the end-of-train pressure is at zero psi.
- (5). Install the run-a-round hose between the right rear of the lead trailer, across the rail bogie, to the left front of the trailing unit.
- (6). The brakes must be isolated on the affected bogie as outlined in the section ISOLATING THE BAKES.