



## IronWood Technologies

Railroad Accident Reconstruction

## Federal Railroad Administration

### False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - Cause: Maintenance - Worn Components Not Replaced Prior to Incident

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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700	8/22/2002	MRL	CTC			BNSF 5447	Switch Machine	Reed Point, MT	Y
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On August 22, 2002 at approximately 10:29 hours, eastward train UP 4978, train symbol ESPBDKM029, derailed 3 locomotives and 16 cars at West Reed Point. Engineer on train ESPBDKM029 reported that he observed the eastward absolute signal at West Reed Point as displaying a Green over Red aspect with the switch points for the West Siding Switch open. Train ESPBDKM029 split the switch and derailed 3 locomotives and 16 cars.

Preliminary investigation by Signal Department personnel revealed the absolute signal at West Reed Point was displaying a Green over Red aspect with the switch points open as reported by the Engineer on train ESPBDKM029. At the time the derailment occurred, the point detector rods was broken and the switch was indicating in the normal position with the switch points gapped open along with bent switch rods.

Signal Department personnel revealed the cause of the failure to be a combination of a broken point detector rod, a missing wear plate under the lock rod on the field side of the GRS Model 5D switch machine and wear under the lock rod on the field side of the switch machine frame. The wear plate was found in the bottom of the switch machine with a broken pin that secures the wear plate in place under the lock rod on the switch machine frame.

The missing wear plate which was 0.093" thick and 0.028" wear on the frame of the switch machine permitted the lock rod to sit 0.121" lower in the switch machine than normal. This resulted in permitting the point detector yoke to move an additional 1/16" before resting on top of the lock rod clips. This was enough movement to permit the point detector to indicate in the normal position with the switch points in the reverse position.

Furthermore, it was determined that the west siding switch had been run through by two westbound trains prior to the derailment. Westward train BNSF 5447, train symbol VKCMTAC820 ran through the switch at approximately 7:42 hours. At this time the switch points were lined for the reverse position and indicating in the normal position. Westbound train BNSF 4398, train symbol HKCKPAS119 also ran through the switch at approximately 7:56 hours. Both trains were on the Main Track and the westward signal for the Mian Track at West Reed Point displayed a Green signal aspect for both trains. Neither train crew reported a signal failure at West Reed Point prior to the derailment. The train crew on train VKCMTAC820 did notify the Dispatcher after hearing about the derailment and reporting that they thought the switch was lined against them at West Reed Point but they were not positive so they didn't file a report.

Signal Department personnel replaced the switch machine at West Reed Point and have checked the wear plates and performed a switch point integrity test on all power operated switch machines on Montana Rail Link.

No. of Reports Shown in this Listing: 1