

**RAILROAD ACCIDENT INVESTIGATION**

**Report No 3774**

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THE NEW YORK CENTRAL RAILROAD COMPANY

SYRACUSE, N Y

August 25, 1957

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**INTERSTATE COMMERCE COMMISSION**

**Washington**

**SUMMARY**

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DATE	<b>August 25, 1957</b>
RAILROAD	<b>New York Central</b>
LOCATION	<b>Syracuse, N Y</b>
KIND OF ACCIDENT	<b>Derailment</b>
TRAIN INVOLVED	<b>Freight</b>
TRAIN NUMBER	<b>Extra 1087 East</b>
LOCOMOTIVE NUMBER	<b>Diesel-electric units 1087, 3366, and 1052</b>
CONSIST	<b>106 cars, caboose</b>
SPEED	<b>38 m p h</b>
OPERATION	<b>Signal indications</b>
TRACK	<b>Double, tangent, 0.36 percent ascending grade eastward</b>
WEATHER	<b>Cloudy</b>
TIME	<b>4 20 p m</b>
CASUALTIES	<b>1 killed</b>
CAUSE	<b>Broken journal</b>

## INTERSTATE COMMERCE COMMISSION

REPORT NO 3774

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER  
THE ACCIDENT REPORTS ACT OF MAY 6, 1910

THE NEW YORK CENTRAL RAILROAD COMPANY

January 23, 1958

Accident at Syracuse, N Y , on August 25, 1957, caused by a broken journal

REPORT OF THE COMMISSION<sup>1</sup>*TUGGLE, Commissioner*

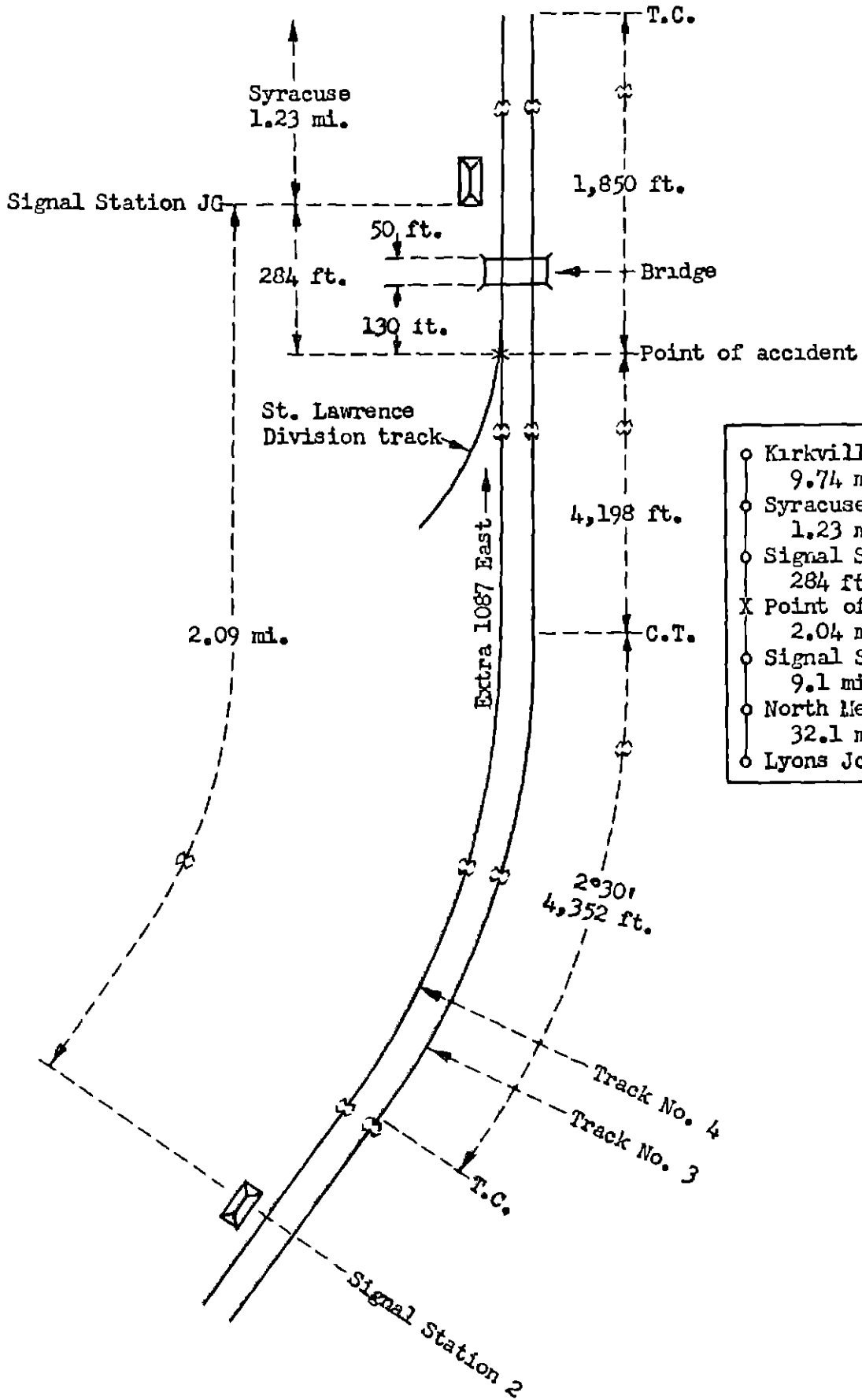
On August 25, 1957, there was a derailment of a freight train on the New York Central Railroad at Syracuse, N Y , which resulted in the death of one person. This accident was investigated in conjunction with representatives of the New York Public Service Commission

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<sup>1</sup> Under authority of section 17 (2) of the *Interstate Commerce Act* the above-entitled proceeding was referred by the Commission to Commissioner Tuggle for consideration and disposition

To Kirkville →

← To Lyons Jct.



- Kirkville, N. Y. 9.74 mi.
- Syracuse 1.23 mi.
- Signal Station JG 284 ft.
- X Point of accident 2.04 mi.
- Signal Station 2 9.1 mi.
- North Memphis 32.1 mi.
- Lyons Jct., N. Y.

The New York Central Railroad  
 Syracuse, N. Y.  
 August 1957

### Location of Accident and Method of Operation

This accident occurred on that part of the Syracuse Division extending between Lyons Jct and Kirkville, N Y , 54.26 miles. In the vicinity of the point of accident this is a double-track line over which trains moving with the current of traffic are operated by signal indications. The main tracks from north to south are designated as No. 4, eastward freight, and No. 3, westward freight. At Syracuse, 9.74 miles west of Kirkville, a track of the St. Lawrence Division diverges to the north from Track No. 4. The switch of this track, which is trailing-point for eastbound movements, is located 1.78 miles west of the station at Syracuse. Signal Stations 2 and JG are located north of track No. 4, and 3.32 miles and 1.23 miles, respectively, west of the station at Syracuse. The accident occurred on track No. 4 at the turnout of the St. Lawrence Division track at a point 284 feet west of Signal Station JG. From the west there are, in succession, a compound curve to the left 4,352 feet in length having a maximum curvature of  $2^{\circ}30'$ , and a tangent 4,198 feet to the point of accident and 1,850 feet eastward. The grade for eastbound trains is 0.36 percent ascending at the point of accident.

In the vicinity of the point of accident the main tracks are laid on a fill approximately 18 feet in height and extend over a through-girder bridge which spans a street. The bridge is approximately 50 feet in length. The west end of the bridge is located about 130 feet east of the point of accident.

The track structure in the vicinity of the point of accident consists of 127-pound rail, 39 feet in length, relaid in 1953, on an average of 24 treated ties to the rail length. It is fully tieplated with double-shoulder tie plates, single-spiked, and is provided with 6-hole 36-inch joint bars. It is ballasted with crushed stone to a depth of 24 inches below the bottoms of the ties.

This carrier's operating rules read in part as follows:

701 Observance of trains by employees and code of signals to be used

\* \* \*

Train and engine crews must observe each side of their train frequently.

The engineman and fireman of all trains and, when practicable, the forward trainmen of freight trains, must be on the lookout for signals \* \* \* when approaching and passing stations \* \* \*

When trains are passing, signalmen and operators must observe the general conditions of trains \* \* \*

If any indication of conditions endangering a train is observed, "Stop" signal must be given \* \* \*

\* \* \*

Hot Journals

By day Hold nose with finger and thumb of one hand and point down toward track with the other

\* \* \*

The maximum authorized speed for freight trains in the vicinity of the point of accident is 45 miles per hour

### Description of Accident

Extra 1087 East, an eastbound freight train, consisted of diesel-electric units 1087, 3366 and 1052, coupled in multiple-unit control, 106 cars and a caboose. This train passed Signal Station 2, the last open office, at 4:17 p. m., and while moving on No. 4 track at a speed of 38 miles per hour, as indicated by the tape of the speed-recording device, the rear truck of the 45th car, all trucks of the 46th to the 68th cars, inclusive, and the front truck of the 69th car were derailed at the turnout of the St. Lawrence Division track.

The forward portion of the train stopped with the front end about 3,600 feet east of the point of accident. Signal Station JG was struck by derailed cars and was demolished. The bridge was struck by derailed cars and it collapsed. The 60th, 61st, 62nd, 64th and 65th cars fell to the street. The other derailed cars stopped in various positions on or near the track structure. Eighteen of the derailed cars were demolished, 4 cars were heavily damaged, and 3 cars were slightly damaged.

The leverman who was on duty at Signal Station JG was killed.

The weather was cloudy at the time of the accident which occurred about 4:20 p. m.

The 45th car of Extra 1087 East was N.Y.C. 900591, an all-steel hopper car, built in January 1957. It is 41 feet 10 inches long. The trucks are spaced 31 feet 8 inches between centers. The lightweight, nominal capacity, and load limit are respectively, 51,400 pounds, 140,000 pounds, and 158,600 pounds. When the accident occurred the car was loaded with coal and the weight of the lading was 148,600 pounds. The trucks are of the four-wheel, spring-plankless, ride-control type with 6-inch by 11-inch journals, 33-inch one-wear wrought-steel wheels and cast-steel side frames with integral journal boxes. The journal boxes were equipped with lubricating pads.

The caboose of Extra 1087 East was equipped with an A-1 rotary type caboose brake valve.

### Discussion

As Extra 1087 East was approaching the point where the accident occurred the speed was about 38 miles per hour. The enginemen were in the control compartment of the first diesel-electric unit, the front brakeman was in the control compartment of the third diesel-electric unit, and the conductor, the swing brakeman, and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The members of the crew said that they made frequent observations of the train en route. At North Memphis, 11.14 miles west of the point of accident, the swing brakeman observed a man standing north of the train at a highway crossing. He said he thought that the man was giving a hot-journal signal. He immediately informed the conductor and described the signal to him. The conductor did not observe the man. He said he was not certain from the swing brakeman's description that the man intended to give a hot-journal signal. He immediately made observations of both sides of the train but did not notice anything unusual. As the train was passing Signal Station 2 the leverman observed that smoke was being emitted from a journal box of a car near the middle of the train and as the caboose passed the station he gave stop signals from the ground with a red flag. The conductor observed the stop

signals and immediately initiated a service brake application by operating the caboose valve but the speed of the train was not materially reduced before the accident occurred. The leverman at Signal Station 2 said that immediately after the train passed the station he informed the leverman at Signal Station JG that a car in Extra 1087 East had a hot journal. The leverman at Signal Station JG said that he would attempt to warn the engine crew. The engineer said he observed the leverman at Signal Station JG in the doorway of the station as the locomotive was approaching the station. He said that the leverman apparently was about to give a hand signal but there was not sufficient time to complete the signal before the locomotive passed the station. The fireman and the front brakeman said that they observed the leverman as the locomotive passed the station and that the leverman did not give a signal. The first the members of the crew on the locomotive became aware of anything being wrong was when the brakes became applied in emergency as a result of the derailment.

Examination of the track structure after the accident occurred disclosed that beginning at a point 1.75 miles west of the point of accident the north side of the head of the north rail of track No. 4 bore a scrape mark 9 inches in length, and two joint-bar bolts were sheared at that location. From that point to the frog of the turnout of the St. Lawrence Division track the ties bore scrape marks north of the north rail. Throughout that distance spikes and bond wires north of the north rail were marked. Some of the bond wires were sheared. The marks on the track structure and the damage to the bond wires apparently resulted from contact with the bottom of a truck side frame. Immediately west of the frog of the turnout of the St. Lawrence Division track the north rail of track No. 4 was bent southward and the south rail of the St. Lawrence Division track was bent northward by a wedging action. The heel-riser block of the frog was broken. The general derailment occurred at that point.

Examination of the equipment after the accident occurred disclosed that the left rear journal of the rear truck at location R-4 of N Y C 900591, the 45th car, had broken and the truck side frame had dropped sufficiently to be in contact with the track structure. The derailment occurred when the side frame struck the heel-riser block of the frog of the turnout of the St. Lawrence Division track. The truck was demolished. The detached portion of the failed journal was hot when found after the accident occurred. The left side frame, and the journal-box lubricating pads, journal bearings, and journal-bearing wedges of the truck were not found.

The fracture in the failed journal was located at a distance of 9-1/8 inches from the collar. The diameter of the journal was 6 inches at the collar and 5-31/32 inches at the break. The broken surfaces were damaged to the extent that the cause of the fracture could not be determined.

Tests performed in the laboratory of the carrier disclosed that the chemical composition of the axle involved in the accident was in accordance with the specifications of the Association of American Railroads, and that there was no indication of previous overheating.

The journal boxes of N Y C 900591 were last repacked on January 21, 1957. The car was last inspected at Southport Yard, Elmira, N Y, on the Pennsylvania Railroad on August 24, 1957. It was assembled in Extra 1087 East at Elmira on August 25, 1957.

#### **Cause**

This accident was caused by a broken journal.

Dated at Washington, D C , this twenty-third  
day of January, 1958

By the Commission, Commissioner Tuggle

(SEAL)

HAROLD D McCOY,

Secretary