

DEPARTMENT OF TRANSPORTATION  
FEDERAL RAILROAD ADMINISTRATION

FALSE PROCEED SIGNAL REPORT

REPORT FOR (month/year)

Dec-02

DATE

20-Dec-02

REPORTING CARRIER

Norfolk Southern Corporation

Division: Piedmont

REPORTING OFFICER

Chief Engineer - Eastern Region  
Communications & Signal Department

MAIL TO

Mr. Michael Woods  
Federal Railroad Administration  
16th Floor - Suite 16T20  
100 Alabama Street, SW  
Atlanta, GA 30303-3104

TYPE OF SYSTEM	DATE	LOCOMOTIVE NUMBER	DEVICE THAT FAILED	LOCATION (city and state)
1 BLOCK SYSTEMS <input type="checkbox"/> AB <input type="checkbox"/> APB <input checked="" type="checkbox"/> TC	12/16/2002	P40	Signal Circuits	Kannapolis, NC
2 INTERLOCKING <input type="checkbox"/> REMOTE <input type="checkbox"/> MANUAL				
3 AUTOMATIC SYSTEMS <input type="checkbox"/> ATS <input type="checkbox"/> ATC <input type="checkbox"/> ACS				
4 OTHER (specify)				

NATURE AND CAUSE OF FAILURE / CORRECTIVE ACTION TAKEN

At 7:50 a.m., December 16, 2002, southbound train P40 Engineer observed the northbound 339.8 intermediate signal, as his southbound train passed the adjacent southbound proceed signal at the 339.9 intermediate signal location.

P 40's train had passed the 339.9 southbound signal by approximately 3 - 4 car lengths, as Engineer observed an approach diverging (Y/G) signal at the adjacent northbound 339.8 intermediate signal. At this time, P 40 still occupied the track circuit north of the 339.8 northbound signal with approximately 1/2 mile of train. The approach diverging signal was displayed for 3-4 seconds before displaying a restricting signal (R/R with number plate). The signal remained restricting until P 40 engineer could no longer observe the 339.8 signal.

C&S personnel investigated and were able to duplicate the signal as observed by Engineer. Investigation found shorted blocking diodes in a trackcode isolation unit located at the 339.8 signal location along with excessive current on the track circuit. The current limiting diodes shorted in the isolation unit allowed the track relay to pick up from the kick back circuit generated by the inductor magnetic field collapse. The track relay followed the code being generated for a following move due to the stick circuit being energized. The code following track relay allowed the BD relay to energize and display the northbound approach diverging aspect. Track circuit current levels were adjusted, the isolation unit was changed out and the signal system tested. Returned to service at 3:30 p.m. on 12/16/02.