



Product Support Bulletin 2022-001

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Maintenance of Way ~ Work Equipment Bulletin

DATE: February 6, 2022

SUBJECT: Norfolk Southern (NS) RR SE Spiker Change of Direction Alarm Verification

RATING: **DIRECTIVE**
(Action is required)

ALERT
(Potential Problem)

INFORMATION
(Action is optional)

PRODUCT IMPROVEMENT
(Enhance Product)

MACHINE MODEL(S): SE Spiker Models and SE Spiker – T4 Models

SERIAL NUMBER(S): S/N 550026-550031, 550051-55053, 550071-550079, and 550102-550121

SUMMARY: NS RR and FRA require a “Change of Direction” alarm to sound during travel. It has been discovered that some Nordco SE spikers, have “Change of Direction” alarms that do not meet these requirements. The serial numbers of potentially affected SE Spikers are listed above.

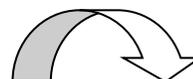
OPERATIONAL

IMPACT: If the Change of Direction Alarm is not operating properly, it will not provide an audible alert for travel of the equipment. Specifically, the Change of Direction Alarm will not sound when a propel pedal is pushed in the opposite direction of the Travel Lights selected from the Travel Light switch.

ACTION: Nordco recommends that the machines identified above be tested and verified for correct operation. Included with this Bulletin is a step-by-step procedure starting on page 2 to use for the testing and verification. We request that you notify us in writing after the testing is complete. If the machine passes the testing, no additional action will be required. If the machine does not pass the testing, we will schedule a Nordco Service Tech to come out and make the proper corrections for the machine to pass the tests.

Please email Tim Konkolowski at tim.konkolowski@wabtec.com with the machine S/N(s) and the results of the testing performed. We request that all testing be completed within 30 days of the release of this Work Equipment Bulletin.

WARRANTY: There will be no warranty for any failed or worn parts. The visit and any labor performed by the Nordco Service Tech resulting from any testing of the Travel Alarm operation as described in this Bulletin will be covered by Nordco.



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NS SE Spikers

1. Perform the tests for Travel Alarm operation below.
2. A page at the end is provided to be filled out to aid in testing and communication of the results back to Nordco
3. Change of Direction Alarm Check
 - a. Power on the machine by using the battery disconnect
 - b. In the cab move the engine switch to the run position but do not start the equipment
 - c. Power on the control system
 - d. Pull out all interlocks and e-stops
 - e. Enter travel mode by selecting "Travel" from the "Mode" box in the lower right corner of the screen
 - f. Follow the chart below (also on last page) by putting the travel switch in the position indicated and press the corresponding pedal. The final page of this procedure contains a duplicate of this chart, for the purpose of recording the test results and sending to Nordco.

INITIALS	Switch Position	Pedal Pushed	NS Alarm Function
	FORWARD	FORWARD	NONE
	FORWARD	REVERSE	REAR ALARM (3 sec)
	CENTER	FORWARD	F&R ALARM (3 sec)
	CENTER	REVERSE	F&R ALARM (3 sec)
	REVERSE	FORWARD	FRONT ALARM (3 sec)
	REVERSE	REVERSE	NONE

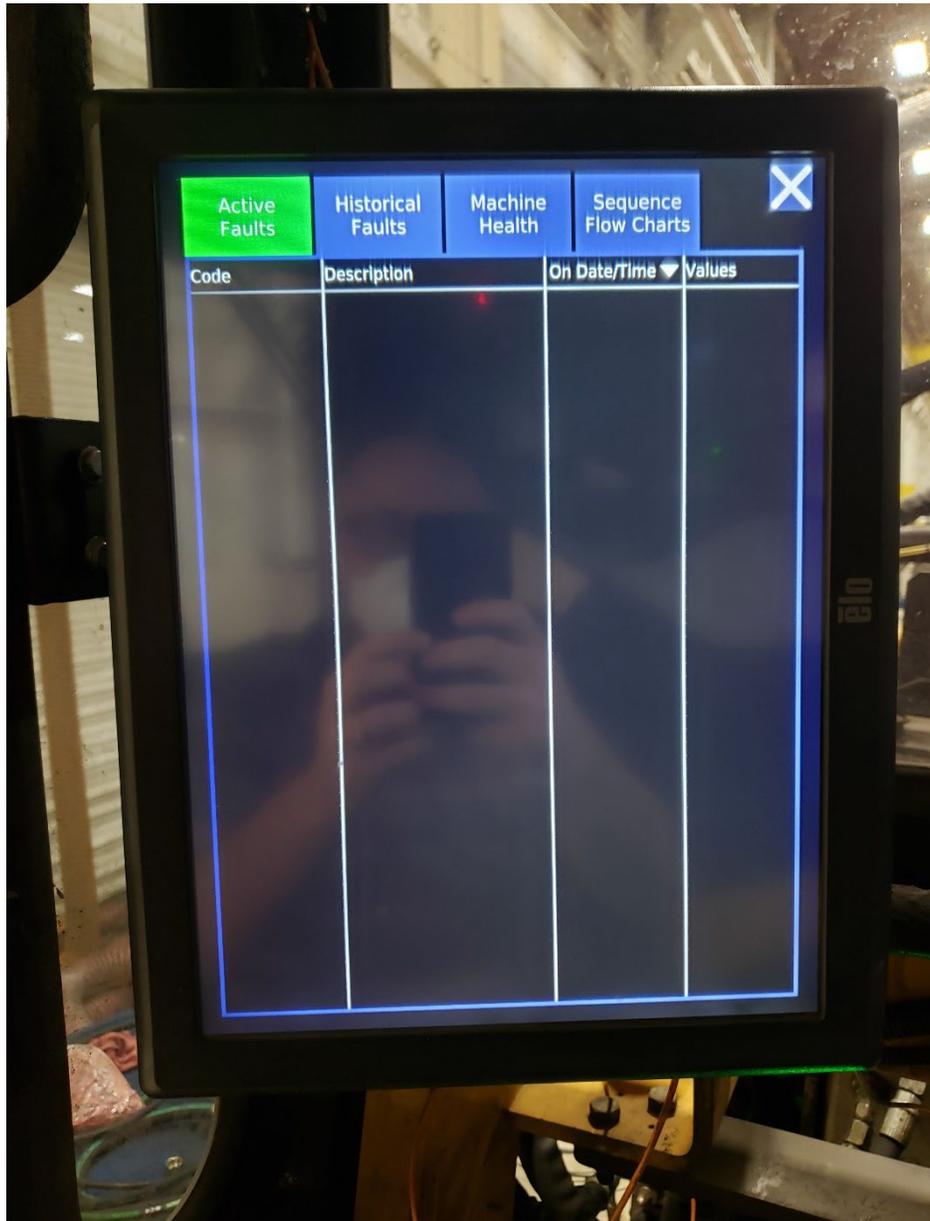
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4. Enter diagnostics and select all travel pedals and brake pedals
 - a. Press the fault icon in the upper right hand corner of the screen ()



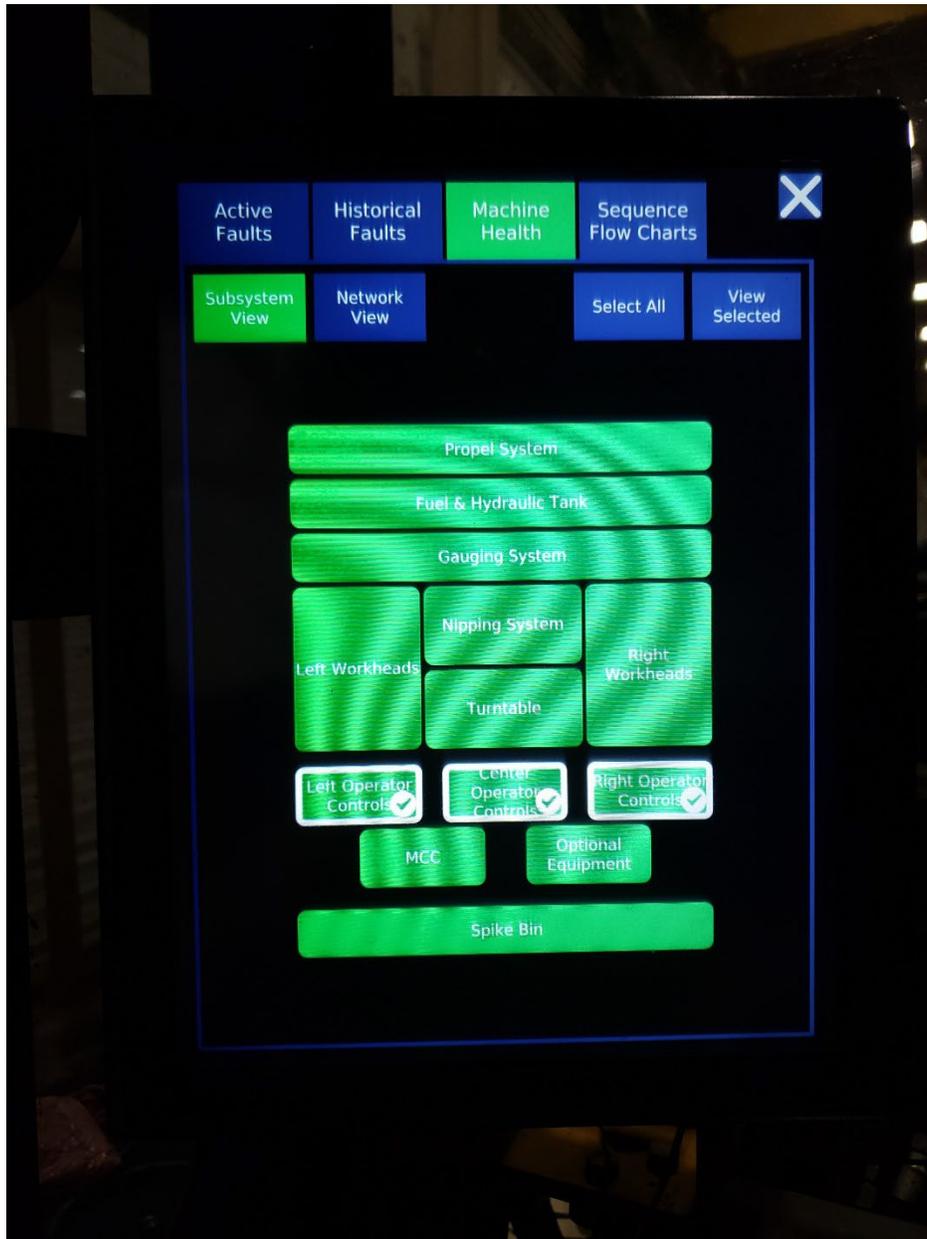
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- b. That will show the machine faults page, select the “Machine Health” tab at the top of the screen.



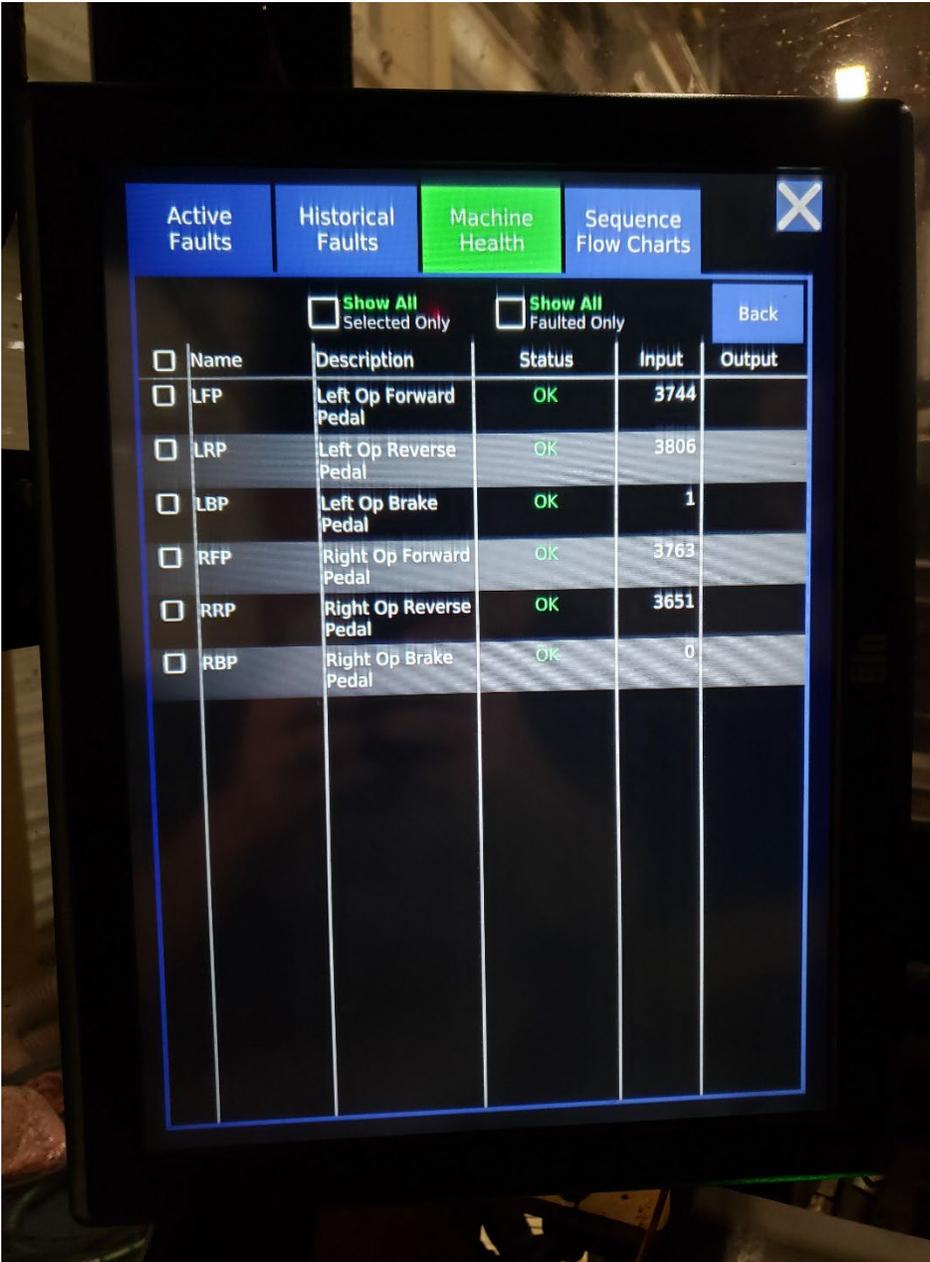
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- c. Select “Left Operator control”, “Center Operator Control” and “Right operator Control”; All boxes should be highlighted with a white box with a checkmark inside of them. Then press the “View Selected” box located near the upper right corner of the screen



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- d. This will allow you to see the input for all the propel and brake pedals for the machine. NOTE: Some machines may have a center set of pedals as well. If the pedals are unpressed the "Input" will show around 4000. When fully pressed each pedal will read around 18000.



The screenshot shows a digital display with a menu at the top containing 'Active Faults', 'Historical Faults', 'Machine Health' (highlighted in green), and 'Sequence Flow Charts'. Below the menu, there are two filter options: 'Show All Selected Only' and 'Show All Faulted Only', both with unchecked checkboxes. A 'Back' button is located in the top right corner of the data area. The main content is a table with the following data:

<input type="checkbox"/>	Name	Description	Status	Input	Output
<input type="checkbox"/>	LFP	Left Op Forward Pedal	OK	3744	
<input type="checkbox"/>	LRP	Left Op Reverse Pedal	OK	3806	
<input type="checkbox"/>	LBP	Left Op Brake Pedal	OK	1	
<input type="checkbox"/>	RFP	Right Op Forward Pedal	OK	3763	
<input type="checkbox"/>	RRP	Right Op Reverse Pedal	OK	3651	
<input type="checkbox"/>	RBP	Right Op Brake Pedal	OK	0	

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5. Using the steps below as a guide complete the table at the end of this section (also on last page)
6. If there are no center pedals on this machine fill in the corresponding boxes with "N/A"
 - a. Press the **left forward** travel pedal to the floor and ensure the value is between 17000-18500 for "Left Op Forward Pedal" in the diagnostics screen
 - b. Press the **left reverse** travel pedal to the floor and ensure there is a value is between 17000-18500 for "Left Op Reverse Pedal" in the diagnostics screen
 - c. Press the **left brake** pedal to the floor and ensure a value of 1 is read for "Left Op Brake Pedal" in the diagnostics screen
 - d. Press the **right forward** travel pedal to the floor and ensure there is a value is between 17000-18500 for "Right Op Forward Pedal" in the diagnostics screen
 - e. Press the **right reverse** travel pedal to the floor and ensure there is a value is between 17000-18500 for "Right Op Reverse Pedal" in the diagnostics screen
 - f. Press the **right brake** pedal to the floor and ensure a value of 1 is read for "Right Op Brake Pedal" in the diagnostics screen
 - g. Press the **center forward** travel pedal to the floor and ensure there is a value is between 17000-18500 for "Center Op Forward Pedal" in the diagnostics screen
 - h. Press the **center reverse** travel pedal to the floor and ensure there is a value is between 17000-18500 for "Center Op Reverse Pedal" in the diagnostics screen
 - i. Press the **center brake** pedal to the floor and ensure a value of 1 is read for "Center Op Brake Pedal" in the diagnostics screen

Value	Pushed Pedal
	Left Forward
	Left Reverse
	Left Brake
	Center Forward
	Center Reverse
	Center Brake
	Right Forward
	Right Reverse
	Right Brake

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7. Machine Serial Number: _____

8. Tested by: _____

9. Tested Date: _____

10. Results Tables:

INITIALS	Switch Position	Pedal Pushed	NS Alarm Function
	FORWARD	FORWARD	NONE
	FORWARD	REVERSE	REAR ALARM (3 sec)
	CENTER	FORWARD	F&R ALARM (3 sec)
	CENTER	REVERSE	F&R ALARM (3 sec)
	REVERSE	FORWARD	FRONT ALARM (3 sec)
	REVERSE	REVERSE	NONE

Value	Pushed Pedal
	Left Forward
	Left Reverse
	Left Brake
	Center Forward
	Center Reverse
	Center Brake
	Right Forward
	Right Reverse
	Right Brake