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| **Signalling Like for Like Renewal Work Instruction** | **WO No.**  |
| **Page 1 of 2** |
| **Scope:** |  | **Date:** |
| **Team Leader:** |  | **Axle Counter Type:** |  |
| **Activity:** | **FAdC R2 RSR180 WHEEL SENSOR LIKE FOR LIKE RENEWAL** |
| **Reference:** PR S 40009, PR S 40051; MN S 41589 |
| **Activity No.** | **Task No.** | **WORK DESCRIPTION** | **Completed****Name/Sign** |
|  |  | **APPARATUS INSPECTION & PREPARATION** |  |
| **1** | **1A** | Ensure that the new wheel sensor is an RSR180. |  |
|  | **1B** | Ensure the new RSR180 is free from damage. |  |
| **2** | **2A** | Confirm which RSR180 has failed by observing ‘Sys1’ and ‘Sys2’ fast flash rate on associated AEB101 board, or use the ASD tool to determine the error type |  |
| **NOTE** | Fast flash rate for 2s followed by slow flash rate, whereas the number of slow flashes corresponds to the error code number – refer to System documentation for error code meaning. |
|  | **2B** | Alternatively, use the ASD tool to determine the error type associated with the AEB101 and its wheel sensor. |  |
|  | **2D** | Confirm the SK140 wheel sensor clamp is not damaged. Repair or replace if necessary. |  |
|  |  | **SAFEWORKING & DISCONNECTION FROM INTERLOCKING** |  |
| **3** | **3A** | Determine if the Frauscher FAdC R2 equipment and any associated signalling are required to be booked out of use in accordance with PR S 40008 – Securing Signalling Apparatus Out of Use. |  |
|  | **3B** | If required, disconnect the affected Frauscher FAdC R2 equipment and associated signalling, in accordance with PR S 40009 – Disconnection of Signalling Apparatus. |  |
|  |  | **DISCONNECTION, REMOVAL AND INSTALLATION** |  |
| **4** | **4A** | Mark the location of the existing wheel sensor (this will ensure correct reinstallation)  |  |
|  | **4B** | Disconnect the RSR180 tail cable from the associated trackside disconnection point. |  |
|  | **4C** | Remove the RSR180 from the SK140 clamp via removal of fixing bolts. |  |
| **NOTE** | If the SK140 is damaged then remove the clamp and wheel sensor together. |
|  | **4D** | Install the new RSR180 wheel sensor to the clamp, tighten fixing bolts to 40nm. |  |
|  | **4E** | Adjust vertical and horizontal positioning of the wheel sensor:1. Top of wheel sensor to top of rail – 43mm ±2.0mm
2. Inside top edge of wheel sensor towards the rail – 5.5mm ±2.0mm
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| **5** | **5A** | Calibrate new RSR180 wheel sensor at the associated AEB101 board.1. Push both toggle switches to the left within 0.5 seconds
2. Keep both toggle switches in this position for at least 0.5 seconds
3. Release both toggle switches within 0.5 seconds
4. Keep both toggle switches in the neutral position for a maximum of 2 seconds
5. Push both toggle switches to the right within 0.5 seconds
6. Keep both toggle switches in this position for at least 0.5 seconds
7. Release both toggle switches within 0.5 seconds.
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| **FAdC R2 RSR180 WHEEL SENSOR LIKE FOR LIKE RENEWAL** | **Page 2 of 2** |
|  | **5B** | Confirm the operating range of Sys1 and Sys2 are each between 280mV and 500mV. The reading should be as close to 390mV as possible. |  |
|  | **5C** | Ensure the difference between the Sys1 and Sys2 current values are no greater than 20mV. |  |
| **NOTE** | If calibration is unsuccessful readjust the wheel sensor positioning and recalibrate the AEB as per above until Sys1 and Sys2 current values difference is no greater than 20mV. |
|  | **5D** | Record Sys1 and Sys2 values on the wheel sensor history card. |  |
| **6** | **6A** | Perform occupancy detection test of Sys1:1. Place the PB200 testing plate on Sys1 of the wheel sensor
2. The corresponding Sys1 LED of the associated AEB101 must illuminate.
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|  | **6B** | Perform occupancy detection test of Sys2:1. Place the PB200 testing plate on Sys2 of the wheel sensor
2. The corresponding Sys2 LED of the associated AEB101 must illuminate.
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|  |  | **CERTIFICATION** |  |
| **9** | **9A** | Verify that the new RSR180 wheel sensor has been installed in the correct location. |  |
|  | **9B** | Document the replacement of the RSR180 on the associated wheel sensor history card. |  |
|  | **9C** | A reset of the track section shall be required in accordance with PR S 40051. |  |
| **10** | **10A** | If applicable, book the FAdC R2 axle counter back into use. |  |

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| **I certify \_\_\_\_\_\_ RSR180 wheel sensor at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ location has been inspected and tested and is fit for service.****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_****Print Name Position****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_****Signature Date** |