

| Work Instruction | | WO No. | |
|--|-----------------|---|----------------------------|
| | | Date: | |
| Scope: | | | |
| Team Leader: | | Point Machine Type: | |
| Activity: Points Electric Machine Like for Like Renewal | | | |
| Reference: PR S 40010, PR S 40011 | | | |
| Activity No. | Task No. | Work Description | Completed Name/Sign |
| APPARATUS INSPECTION & PREPARATION | | | |
| 1 | 1A | Ensure the new machine is of correct configuration. Inspect equipment type and configuration, including EOL/ESML wardings, gauge plates and plug couplers (if any) are in accordance with the specific design and compare to the existing machine. | |
| | 1B | Bell test and wire/null count internal wiring (essentially the detection circuit) of the new machine compare to the specific circuit design and existing machine. Include a correlation of connected links and bridges to the circuit book. Visually inspect and insulation test the internal wiring. | |
| 2 | 2A | Confirm the Normal position of points. | |
| | 2B | On the existing machine, wire/null count the incoming terminals, including bridges and links and identify tail cable core numbers on the terminals and compare to specific circuit diagram. | |
| | 2C | Document the disconnections on attached circuit diagram. | |
| | 2D | Conduct an apparatus inspection of the condition of the existing point fixings, rodding, tie plates and insulation. | |
| SAFeworking & DISCONNECTION FROM INTERLOCKING | | | |
| 3 | 3A | Ensure affected signalling apparatus is booked out of use in accordance with PR S 40008. Obtain authorisation for any temporary bridging in accordance with PR S 40002 as necessary. | |
| | 3B | Disconnect the affected signalling apparatus and clip & lock points in accordance with PR S 40009 – Disconnection of Signalling Apparatus. | |
| | 3C | If applicable, apply temporary bridging in accordance with PR S 40002. Test bridging and any contacts remaining in circuit as functional. | |
| DISCONNECTION, REMOVAL AND INSTALLATION | | | |
| 4 | 4A | Open links in location for points tail cable(s). | |
| | 4B | Disconnect cable(s) in point machine, protect ends and withdraw clear. | |
| | 4C | Disconnect rodding, drives and mounting bolts and remove point machine. | |
| 5 | 5A | Install new point machine, drives and fortress lock and/or gauge plate and connect all securing nuts, bolts and rodding. Lubricate to ensure reliable operation. | |
| 6 | 6A | Inspect the cable(s) for any signs of damage. Conduct an insulation test of the tail cable(s) and record on circuit diagrams. | |
| | 6B | Connect all cables in accordance with previously correlated circuit diagram. | |
| ADJUSTMENT | | | |
| 7 | 7A | Make any adjustments necessary to machine drive(s), Facing Point Lock, detection and clutch to enable points to be operational. | |
| | 7B | Following adjustment conduct a safety, security and reliability inspection of the fixings, split pins, locking tabs and keeper plates. | |
| | 7C | Conduct power test of points operation Normal – Reverse – Normal – check switch opening both sides. Adjust if required. | |

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| CERTIFICATION | | | |
| 8 | 8A | Wire count all terminals with incoming tail cable(s) installation to circuit diagram (NB: links to be counted as wire). Record on circuit diagram. | |
| 9 | 9A | Ensure EOL/ESML correctly fits points and the warding/indexing is correct to design. | |
| 10 | 10A | Close all associated terminal links in location and remove any temporary bridging (if applicable). | |
| 11 | 11A | Conduct a Points Correspondence Test Normal - Operate points to the Normal position and open each contact in the Normal detection circuit in turn and ensure Normal detection is lost and restored. Remove and replace EOL/ESML and ensure Normal detection is lost and restored. Each contact# tested during the correspondence test shall be observed to "open" when the points are operated to the Reverse position. #denotes not required for encapsulated contacts which are back-proved in the opposite position. | |
| | 11B | Conduct a Points Correspondence Test Reverse - Operate points to the Reverse position and open each contact in the Reverse detection circuit in turn and ensure Reverse detection is lost and restored. Remove and replace EOL/ESML and ensure Reverse detection is lost and restored. Each contact# tested during the correspondence test shall be observed to "open" when the points are operated to the Normal position. #denotes not required for encapsulated contacts which are back-proved in the opposite position. | |
| | 11C | Conduct an Out of Correspondence test of the following combinations and ensure no detection. Note: The following combinations only apply for an existing double-ended layout. A Signal Engineer shall be consulted if the layout consists of more than two ends. | |
| Out of correspondence test for existing double-ended layout | Operate points to Normal (both ends Normal) | | |
| | A end hold Normal | Operate points lever Reverse | B end Reverse |
| | B end hold Reverse | Operate points lever Normal (ensure NWR is energised) | A end Normal |
| | Operate points to Reverse (both ends Reverse) | | |
| | A end hold Reverse | Operate points lever Normal | B end Normal |
| | B end hold Normal | Operate points lever Reverse (ensure RWR is energised) | A end Reverse |
| 12 | 12A | Ensure open switch flangeway clearance along switch meets specification. Ensure closed switch fully closes up against stock rail. Ensure back drive is functional (if applicable). | |
| | | Points Normal | Open Switch |
| | | Points Normal | Closed Switch |
| | | Points Reverse | Open Switch |
| | | Points Reverse | Closed Switch |
| 13 | 13A | Certify the Facing Point Lock and Detection Normal & Reverse. | |
| 14 | 14A | Arrange for the signaller to check the operation of the points, signals and indications associated with the apparatus. Ensure the machine is secure. | |
| | 14B | Complete the return PR S 40017 FM04. | |
| | 14C | Book affected signalling apparatus back into use. | |
| <p>I certify _____ points at _____ location have been inspected and tested and are fit for service.</p> <p>_____</p> <p>Print Name _____ Position _____</p> <p>Signature _____ Date _____</p> | | | |